FIRE SECURITY SYSTEMS, INC.

CONTRACT NO. V543C-152

VA MEDICAL CENTER
COLUMBIA, MISSOURI

VABCA-5559-63, 5566-70, 5574-77, 5579, 5581, 5583

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Janet R. Lemons, Esq., Trial Attorney, Roanoke, Virginia; ***Charlma J. Quarles, Esq.,*** Deputy Assistant General Counsel; and ***Phillipa L. Anderson, Esq.,*** Assistant General Counsel, Washington, D.C., for the Department of Veterans Affairs.

OPINION BY ADMINISTRATIVE JUDGE ROBINSON

The Appellant, Fire Security Systems, Inc. (FSS or Contractor) filed timely appeals from final decisions by a Contracting Officer (CO) for the Department of Veterans Affairs (VA or Government). An evidentiary hearing was held in Washington, D.C. Both entitlement and quantum were at issue. During the hearing, several of the then-pending appeals were settled or withdrawn, leaving the seventeen captioned appeals to be decided by the Board.

The record for decision consists of the 12 volume transcript of the hearing; the VA's Rule 4 file, tabs 1-381; Appellant's Rule 4 Supplement, tabs 501-539; the Appellant's hearing exhibits A-1 through A-7; the Government's hearing exhibits G-1, G-2 and G-4 through G-11; Board exhibit B-1; and, an Affidavit by James R. Dixey. Both parties filed extensive post-hearing briefs.

GENERAL FINDINGS OF FACT

On December 9, 1993, the Department of Veterans Affairs (VA or Government) awarded a fixed price contract entitled Corrections of Fire Safety Evaluation System Deficiencies at the Harry S. Truman Memorial Veterans Hospital in Columbia, Missouri. The Contract was awarded to Fire Security Systems, Inc. (FSS or Contractor) in the amount of $1,558,562. The hospital

building consisted of six stories of occupied patient space, a penthouse, an occupied basement, and a pipe sub-basement. The project was to be completed in 450 days following Notice to Proceed.

In Section 01010, GENERAL REQUIREMENTS, The GENERAL INTENTION is expressed as follows: "The scope of this project shall include the design, installation, testing, and as-built drawings on AutoCAD for complete sprinkler protection throughout the building, removal of existing occupant use hose racks, valves, and piping, replacement of existing jockey pump, upgrade to the building fire alarm system, inspection and maintenance of existing fire dampers, installation of new fire dampers, upgrade of stairway construction, sealing of floor penetrations, replacement of various doors and the upgrade of corridor walls."

The Contract contained the usual provisions that are mandated for VA construction contracts by the Federal and the VA Acquisition Regulations (FAR and VAAR). Particularly relevant to the captioned appeals are the following: SUSPENSION OF WORK (FAR 52.212-12, APR 1984); DIFFERING SITE CONDITIONS (FAR 52.236-2, APR 1984); SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (FAR 52.236-3, APR 1984); CHANGES (FAR 52.243-4, AUG 1987); CHANGES – SUPPLEMENT (VAAR 852.236-88 (a) & (b), JUN 1987); SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (VAAR 852.236-71, APR 1984). (R4, tab 300)

In addition, General Specification (GS) 1 of the IFB stated that:

> Bidders are expected to visit the site and acquaint themselves with conditions as they actually exist. Failure to do so will in no way relieve the successful bidder, to whom the contract is awarded, of furnishing all materials and performing all work required for completion of the contract in conformity with the drawings and specifications. Appointments may be made with Chief, Engineering Service, 314-443-2511, X6300, to visit the site.

FSS did not contact the VA's Engineering Service to arrange for a site visit, and there is no record that the Contractor inspected the site prior to bidding. Neither did the firm attend the pre-bid conference and walk-through that had been scheduled in the IFB. According to its president, however, two FSS employees did make an unscheduled pre-bid tour of the VA facility. (Tr. I/56-57, I/196, II/12-13)

General Condition 1.58 of the Specifications required the Contractor, within 30 calendar days of receipt of notice of contract award, to submit a Cost Breakdown (also called " Schedule of Values") , based on the fifteen specification sections. All elements of overhead and profit were to be uniformly prorated to the specification section cost. (R4, tab 300)

Notice to Proceed was issued December 27, 1993. The contract completion date was established as March 22, 1995. The extended Contract completion date, based upon time extensions issued by the Contracting Officer, was May 12, 1995.

WITNESSES TESTIFYING IN MULTIPLE APPEALS

The CO for this Contract was **Judy (White) Heidenreich**. The CO's technical representative (COTR) was **Michael Atchley**, an engineer. **Frank Van Overmeiren** is a fire protection engineer. He is the president of Fire Protection & Code Consultants (FP&C, also called the A/E), the firm that assisted the VA in identifying and correcting deficiencies through the design for work under this Contract. The Safety Officer for the hospital was **Michael Henrickson**, whose many duties included that of an industrial hygienist. The president of FSS is **William Hayes**, who has over thirty years experience with fire protection systems, from design to installation. Mr. Hayes oversaw the scheduling of manpower for this project. Although an FSS salesman had prepared the bid, Mr. Hayes reviewed the salesman's estimate and read the specifications and

reviewed the drawings prior to personally submitting the bid to the Government. (Tr. I/26) All of the foregoing individuals testified in connection with most of the captioned appeals. Several other fact witnesses were called by the Appellant for testimony relating only to particular appeals.

Each party presented an expert witness regarding scheduling issues. Testifying for the Appellant was **George McLaughlin** of the firm, Ockman and Borden Associates. Mr. McLaughlin has a Bachelor's Degree in electrical and mechanical engineering and Master's degrees in mechanical engineering and industrial management. He has extensive experience in the fields of engineering design and development as well as in delay and schedule analysis. He was qualified and accepted as an expert in these fields. (Tr. V/158) **Joseph Gymory** testified for the Government. He is a graduate civil engineer with over thirty years experience in various aspects of construction and construction planning. Mr. Gymory has spent the last twenty years with the VA. From 1980 to 1987, he dealt with budgeting and scheduling for major construction projects. Since 1987, he has been the Director of the VA's CPM Service, supervising as many as a dozen engineers and architects. His duties consist of planning the phasing and reviewing the constructibility of each project. After contract award, his office reviews the contractor's schedule and assists in the monthly updates in concert with the resident engineer, as well as analyzing requests for time extensions and delay claims. Finally, he provides claim and litigation support in analyzing (and defending against) claims for delay, impact and inefficiency. The Board determined that this witness was qualified not as an expert, but only as an informed lay witness under Rule 701 of the Federal Rules of Evidence, with respect to any claim for loss of productivity. With respect to schedule analysis relating to delay and impact claims, Mr. Gymory was qualified as an expert witness. (Tr. VI/307)

The parties each presented a witness to testify solely with respect to quantum, within the context of the audits of Appellant's claims that were performed for the Government. The Appellant's witness was **Sandra Hadley**, a CPA and partner in Cotton & Company. Ms. Hadley had over thirteen years experience in both performing and evaluating audits conducted in accordance with "yellow book" standards. Twelve of those years were also spent assessing the methodology and conclusions of various federal agency IG audits as well as those performed by the Defense Contract Audit Agency (DCAA). She was qualified as an expert witness regarding generally accepted accounting principles and as well as Government auditing and accounting standards. (Tr. IX/212) The Government had requested the assistance of the DCAA in assessing the quantum portion of Appellant's claims. The individual conducting a (follow-up) audit of these same claims was **Calvin Winburn**, a CPA and Senior Auditor with a degree in accounting. Mr. Winburn has over twenty years of experience in performing various types of audits for the DCAA. Particularly relevant to these appeals is his experience in performing *incurred cost audits* of large claims brought by contractors on Government construction projects. (Tr. XII/18)

The Appellant presented an additional witness in support of its quantum position on several claims. **Peter Bratlie** is a CPA. He is the Corporate Secretary and Controller of FSS.

On December 24, 1997, VA received a request for a final decision on twenty-five enumerated claims (Rule 4 File, tabs 291 and 294). Following the Contracting Officer's consideration (R4, tabs 292 and 293), the claims were denied in their entirety by the Contracting Officer and thereafter appealed to, and docketed by the Board (R4, tabs 291-97).

During the hearing, Appellant withdrew seven appeals. The Board placed another (Interest on Retainage, VABCA-5582) on the inactive docket (Dismissed Without Prejudice, per Board Rule 30) pending issuance of this opinion.

VABCA-5559: FINDINGS OF FACT

Defective AutoCAD – Project Start

AutoCAD is a computer-based system for assisting in the drawing of plans. Ideally, background drawings are the starting point of the AutoCAD, providing structural lines or columns and interior wall dimensions. Once these background drawings are in the computer, the computer operator can bring any particular room up onto the screen. Then, based on the dimensions provided by the background drawings, the operator can lay out the system's sprinkler heads so as to be properly spaced while avoiding potential obstructions such as ductwork and light fixtures. This assumes that ductwork, light fixtures and any structural offsets are also depicted on the background drawings, and that the dimensions are accurate to the nearest inch. The background drawings the VA provided to all bidders in hard copy, were derived from the AutoCAD information prepared by the architectural firm of PWAE, under subcontract to FP&C, the VA's project architect-engineer consultant (A/E). (Tr. I/32-33; I/163)

Amendment #2 to the Invitation for Bids (IFB), that preceded award of this Contract, added a set of eleven general construction notes to Contract Drawing FP-1. Note #1 reads as follows:

> All information provided or otherwise represented by these drawings is approximate, for information only, *and must be verified by the design and build contractor*.

(R4, tab 300) (Emphasis added)

The IFB also included within Specification Section 01001, paragraph 1.44 at page 42, VAAR Clause No. 852.236-71, titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, which provided, *inter alia*, as follows:

* * * * * *

> (c) Dimensions govern in all cases. Scaling of drawings may be done only for general location and general size of items.
>
> (d) Dimensions shown of existing work and all dimensions required for work that is to connect with existing work, shall be verified by the Contractor by actual measurement of the existing work. Any work at variance with that specified or shown on the drawings shall not be performed by the Contractor until approved in writing by the Contracting Officer.

(R4, tab 300)

The specifications and drawings for this project were a part of the information provided to the bidders with the IFB in a hard copy format. While a scale was provided for each drawing, there were few dimensions shown, other than on the structural drawings (at column lines and on several details). No representation was made by the VA, in the IFB or the Contract, that detailed dimensioned drawings would be provided in AutoCAD format to the successful bidder. The AutoCAD that the VA did provide to FSS contained only the information shown on the drawings that had been furnished with the IFB – nothing more. The HVAC ductwork was not depicted and no above-ceiling conditions were shown; nor were any offsets depicted. The rooms and hallways depicted on the floor plans were not dimensioned, but a scale was provided. As Mr. Hayes testified: "[T]he AutoCAD that we got didn't look any different than the bid drawings." (R4, tabs 299, 300; Tr. I/65; Tr. X/222)

Specification Section 15500, SUBMITTALS, paragraph 1.6.A., reads: "Submit as one package in accordance with Section 01340, SAMPLES AND SHOP

DRAWINGS." Section 01340 deals exclusively with obligations of the Contractor. Section 15500, SUBMITTALS, paragraph 1.6.C., reads as follows:

> Detailed drawings shall be prepared in accordance with NFPA 13. Updated floor plans containing minor changes and existing sprinkler system drawings in AutoCad will be provided. Sprinkler as-built drawings prepared on AutoCad include all existing sprinklers and piping.

The IFB also included the following cautionary language:

> 52.214-6 EXPLANATION TO PROSPECTIVE BIDDERS. (APR 1984) Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders.

(R4, tab 300)

After Contract award, FSS represented in its Schedule of Values that 8% of the Contract amount ($125,382) would be spent on project survey and drafting. It later revised that Schedule of Values, showing that 12% of the Contract ($181,239) was attributable to drafting. (R4, tabs 301, 304)

Mr. Hayes testified that he had several conversations with VA personnel prior to bid opening, including COTR Atchley. He stated that he had the understanding, from discussions that he had "with people at VA" and with Mr. Atchley, that he would get the AutoCAD software program. He did not state what type of AutoCAD with what level of detail the VA's people, including Mr. Atchley, had promised him. (Tr. I/58, 73-75)

When asked by Counsel to explain his expectations regarding access to the VA's AutoCAD drawings, Mr. Hayes testified as follows:

> I expected to be able to receive those [disks] and install them in our computer system and begin working with them and use them to make the drawings for submittal to the Government, and then use them throughout the job, and at the end be able to make the revisions necessary for as-builts.

(Tr. I/99-100)

After contract award, the COTR provided the AutoCAD IFB drawings (also called background drawings) on disk to the Contractor, as he had planned to do. However, he did not remember ever promising anything either to Mr. Hayes or to any bidder during the pre-bid period. The COTR testified that the response to any question requiring clarification (such as availability of the VA's AutoCAD) would have to be issued by the CO as an amendment to the IFB. There is no allegation or evidence that the CO was aware of any such commitment by her COTR and no amendment to the IFB was issued to the potential bidders with respect to the availability of the background drawings on AutoCAD. (Tr. I/113-14; R4, tab 300)

When FSS utilized the Government-furnished AutoCAD background drawings to prepare its shop drawings, spot checking and field verification revealed enough inaccuracies to cause FSS personnel to lose confidence in the VA's AutoCAD drawings. Mr. Hayes testified that he went with his firm's design people when they first began to field verify the accuracy of the AutoCAD drawings. They concluded that: "The dimensions were not close enough for us to work with and I had a meeting with [CO] White and I showed her the print that I had where I'd made these measurements myself." For example, room dimensions would vary as much as a foot or more, throwing off the wall locations for adjacent rooms. With the need to lay out long runs of sprinkler

piping and locations for sprinkler heads, the precise locations of structural members such as walls was very important for a properly designed fire sprinkler system. As a consequence of these inaccuracies, FSS felt the need to check every dimension and to prepare its shop drawings "from scratch," using the services of draftsmen rather than by computer with the Government-furnished AutoCAD program. The Appellant's draftsman prepared two drawings from the VA's AutoCAD of locations within the basement and first floor of the building. He placed measurements taken from the scale on the VA's AutoCAD next to actual measurements taken by FSS personnel. The measurements from wall to wall differed in several instances. (Tr. I/47-50, 64-65; Tr. XI/5-9, Exh. A-3,A-4)

In its January 7, 1994 initial notification to the VA that it considered the AutoCAD system to be defective, FSS listed the following eight items that the VA would have to provide before the design of the automatic sprinkler system could commence: 1) column grid plan/layer; 2) reflected ceiling plan/layer; 3) HVAC plan/layer; 4) plumbing plan/layer; 5) lighting plan/layer; 6) room finish schedule/notes; 7) wall schedule/notes; 8) existing sprinkler as built plan/layer. Project Manager Allen concluded his letter with the statement that if FSS had to provide an on-site survey to route fire sprinkler piping, the cost would be approximately $175,000, not counting the associated costs of delay and extended performance. (R4, tab 7)

The CO promised to furnish additional materials (sprinkler and column grid drawings) at the pre-construction conference. Mr. Hayes acknowledged that the VA did furnish some additional materials. There is no record that any of the other items demanded were furnished or even existed. (Tr. I/125-26; Tr. X/237-38, 240)

In a letter to the CO dated March 2, 1994, Mr. Allen indicated that FSS considered the AutoCAD program to be government-furnished equipment. In

support of this position, Mr. Allen referred to the last two sentences of paragraph 1.6.C of Specification Section 15500, SUBMITTALS. The two sentences read as follows: "Updated floor plans containing minor changes and existing sprinkler system drawings in AutoCAD will be provided. Sprinkler as-built drawings prepared on AutoCAD include all existing sprinklers and piping." The Project Manager made no reference to any pre-bid assurances from any VA official that AutoCAD drawings would be provided to FSS. By the time of the hearing, Appellant abandoned the position that it had relied on the specification's language. FSS instead stressed its reliance on the COTR's alleged pre-bid promise to supply drawings on AutoCAD. (R4, tab 504; App. Main Br. at p. 6)

In her letter to FSS dated April 18, 1994, the CO advised the Contractor that it had received the specification drawings on AutoCAD along with the updates of construction that the hospital had performed between the time of issuance of drawings and the award of the Contract. In her words, this was "exactly the material identified in the solicitation." The CO explained that the Contractor was confusing the Government's obligations with its own duties under the Submittal provision of the Specifications. (R4, tab 47)

In a letter of January 4, 1995, the design work having by then been completed, FSS submitted its revised pricing proposal for work caused by the "defective AutoCAD." In addition to a 98-day time extension, the Contractor sought a total price adjustment of $377,489. The price included direct costs for engineering labor of $78,975 (3,159 man-hours @ $25). This proposal was again presented to the CO in a letter from Mr. Allen dated March 24, 1995. Again, Mr. Allen referred not to reliance on any pre-bid representations made by the COTR, but only on the language of the SUBMITTALS portion of the specifications. He concluded the letter with a demand for payment of the claim or issuance by the CO of her final decision. (R4, tabs 139, 520)

The essence of Appellant's claim for damages is that it had to spend additional unplanned amounts of time checking all dimensions in the building and that it was forced to do the drafting without the help of a computer. (Tr. I/47-49)

After the claim had been denied by the CO, appealed and docketed, the Appellant subsequently amended its Complaint to a demand for a total of $32,857. Of that amount, the direct cost of engineering labor was stated to be $20,578. Ms. Hadley testified that in assisting Appellant in amending this claim, her task was to see that the appropriate mark-ups and indirect costs were applied. She conducted no audit and relied wholly on the Contractor in pricing the direct engineering labor costs. Likewise, Mr. Hayes deferred to the FSS Secretary/Treasurer and Comptroller, Mr. Bratlie, with respect to the number of engineering hours claimed in this appeal. Although the number of engineering labor hours was not stated, the Board can approximate the number of hours by dividing the direct labor cost of $20,578 by the "Average rate of Designers" reflected in Attachment "G" to Appellant's amended claim(s) as $16.43. This admittedly imprecise formula yields a total of 1,252 engineering labor hours. (R4, tab 534; Tr. IX/177, XII/14-39)

Mr. Bratlie testified that the original estimate for engineering design labor (surveying and drafting), as reflected in the FSS bid was 3,800 hours @ $18 per hour for a base labor cost of $68,400. The witness was asked to explain the fact that FSS expended only 4,305 engineering hours over the entire Contract, including change order proposals, while claiming to have expended a total of 9,272 hours for its base bid engineering hours plus the extra hours associated with its several claims. Mr. Bratlie stated that, since the hours actually spent were only 47%of the "estimated" hours claimed, the fraction represents an efficiency factor achieved by FSS. No other explanation was offered for this

anomaly. Ms. Hadley accepted the 47% efficiency factor provided her by FSS, but could not articulate how it was calculated. Mr. Hayes testified that engineering labor hours were added to every change on this Contract. He confirmed that the actual engineering hours expended by FSS over the course of the Contract amounted to only 47% of the total of the engineering hours in its bid plus the estimated engineering hours associated with all changes to the Contract. He attributed this situation to Contractor efficiency. (Tr. X/177-78, 193-96, 243)

VABCA-5559: DISCUSSION & DECISION

The Appellant's position that it was somehow promised a copy of the VA's AutoCAD software prior to bid is based solely on conversations that allegedly took place between Mr. Hayes and COTR Atchley. Mr. Atchley does not recall making such a promise, and Mr. Hayes was not entirely clear as to just what the alleged promise entailed. The VA issued no amendment to the IFB alerting all other potential bidders that the VA's AutoCAD software would be provided the successful bidder, as is expressly required by the mandated FAR clause titled EXPLANATION TO PROSPECTIVE BIDDERS. Even if such a promise had been made, which we greatly doubt, without ratification by the CO and notice to all bidders, any such promise would be without authority and in violation of the Contract terms. The Appellant has failed to persuade the Board that any such binding promise to provide the AutoCAD software was made. Furthermore, as we will discuss, even had such a binding promise been made, the Appellant had no basis for assuming that the level of detail or the accuracy of such information software would relieve it of the need to verify the accuracy of the drawings and their scales and dimensions. The Contract clearly placed upon the Contractor an independent obligation to verify the accuracy of the drawings that were derived from the AutoCAD software.

The Appellant cites us to several cases dealing with defective specifications/drawings: ***United States v. Spearin***, 248 U.S. 132 (1918); ***John McShain, Inc., v. United States***, 412 F.2d 1281 (Ct. Cl. 1969); ***Anthony P. Miller v. United States***, 422 F.2d 1344 (Ct. Cl. 1970); ***W.M. Schlosser Co., Inc., v. United States***, 267 F.2d 870 (Fed Cir. 1985); ***J.W. Bateson Company, Inc.***, VACAB No. 1148, 79-1 BCA ¶ 13,573. These cases all involve the ***Spearin*** Doctrine and situations where the contractors relied on inaccurate specifications and/or drawings to calculate their bid prices for doing the work required by the contracts. That is *not* the issue in this appeal. Here, the claim is for alleged additional costs of surveying and drafting of the shop drawings necessary to lay out and fabricate fire sprinkler piping and heads for this six story hospital building. The entire premise of the claim is that, notwithstanding the clear contract language requiring *the Contractor* to provide detailed drawings for a complete fire protection system, the VA had somehow obligated itself to relieve FSS of the bulk of that responsibility.

Because the drawings on AutoCAD that the VA did provide to the Contractor contained varying degrees of inaccuracy, Appellant claims the costs assertedly incurred in "correcting" these "defective Government-furnished drawings." In ***W.M. Schlosser***, the Federal Circuit held that the appellant could not recover any additional costs for preparation of shop drawings that were part of its independent contractual responsibility, stating:

> [T]he contract drawings were intended to be used solely as a bidding tool to put bidders on an equal footing and to avoid the disruption of the workplace which would have occurred had each potential bidder sought to take individual measurements of the site. Once the contract was awarded, the successful bidder . . . was under an obligation, pursuant to the Measurements clause of the contract, to actually inspect the site prior to performing any work. If discrepancies between the contract drawings and the actual measurements occurred, as some did here, the contractor

> was entitled to an equitable adjustment *to the extent that it incurred costs not reflected in its bid*.

267 F.2d at 873 (Emphasis added)

Schlosser is directly applicable to the instant appeal, wherein the only costs sought are in connection with Appellant's post-award duty to prepare detailed shop drawings. With respect to this post-award duty as prescribed under the Contract's SPECIFICATIONS AND DRAWINGS clause and Drawing Note #1, there can be no application of an implied warranty as to the accuracy of the Contract drawings (or the AutoCAD that produced them). For bidding purposes, the drawings were adequate. For fabrication, however, the Contractor had a clear obligation to take its own measurements.

FSS, upon discovering the inaccuracies in the VA-furnished AutoCAD drawings, had to measure the areas of the hospital where it intended to install fire sprinkler heads and their associated piping runs so that off-site fabrication could be performed accurately. That "additional work" forms the basis for this claim. This work, however, was no different than that which was already required of the designer-builder of the fire sprinkler system. As seen in our findings of fact, the bidders were warned that: "All information provided or otherwise represented by these drawings is approximate, for information only, and must be verified by the design and build contractor." How else is one to "verify" without taking all relevant measurements of the areas where the work is to be performed? The clause does not say "spot check," which seems to be all that FSS originally intended to do. Even if it bid with the expectation that the VA would furnish drawings on AutoCAD, there was no reasonable basis for expecting all rooms to be dimensioned, with all light fixtures and offsets accurately depicted. The AutoCAD that the VA gave to FSS was no more than the bid drawings that were produced from that software. Any shortcomings that

existed on those drawings would be reflected on the AutoCAD format as well. Using the scale provided to have the AutoCAD place dimensions on the background drawings would simply replicate any erroneous measurements already in the software and reflected on the background drawings; hence the admonition in General Drawing Note #1 that the Contractor take its own measurements.

Here, not only did the standard VAAR clause warn the Contractor to verify all dimensions by actual measurement prior to connecting to existing work, but the very first general drawing note stressed that all information represented by the drawings was approximate and "must be verified by the design and build contractor." As a "design and build contractor," Appellant assumed a far greater responsibility for preparation of drawings than would a contractor that was constructing entirely with the use of prescriptive drawings and specifications. While the background drawings on AutoCAD would be useful to the Contractor in determining the general arrangement and relative location of the rooms and hallways on each floor, as well as the location of existing fire sprinkler system components, they were not intended to supercede the design/build Contractor's *independent* obligation to verify the accuracy of each room's dimensions, whether derived from a scale or actually shown on the drawings. As will be seen in several subsequent appeals, where the VA had actually altered room and hallway configurations between drawing preparation and notice to proceed (such as creating three rooms from two), the Appellant was compensated for any additional costs of sprinkler and piping installation (including engineering design costs), through issuance of change orders.

With the warning given on Drawing Note #1, and notwithstanding any expectation that it might receive the background drawings on AutoCAD, the Appellant was nevertheless expected to include sufficient costs in its bid to

survey, measure and prepare its shop drawings. Even if the Appellant thought that it would receive the background drawings on AutoCAD, there was no way of knowing what level of detail would be shown on the software. ***Franklin Pavkov Construction Co.***, ASBCA No. 50828, 00-2 BCA ¶ 31,100 at 153,607-08, *affirmed,* ***Frankin Pavkov Construction Co. v. Roche****,* Fed Cir., No. 01-1010, 1/29/02.

It is clear that the specifications and drawings required the Contractor to make its own measurements and not rely on any scales or dimensions shown on Government-provided drawings, whether in hard copy or on AutoCAD. As a design-build contractor, FSS cannot shift that responsibility to the Government. As long as the Government provided drawings that were sufficient for bidding purposes, it met its duty under the terms of the Contract. ***KAM Electrical Enterprises***, VABCA No. 2492, 89-1 BCA ¶ 21,558. The appeal is ***denied***.

VABCA-5560: FINDINGS OF FACT

Defective AutoCAD – Project Finish

Section 01010 contains the "General Requirements" of the Contract. Paragraph 1.1 states, *inter alia*: "The scope of this project shall include the design, installation, testing, and *as-built drawings on AutoCad* for complete sprinkler protection . . . ." [emphasis added] In the next paragraph, 1.2, Bid Item I of the preceding IFB is restated, *inter alia*: "Work includes the design, installation, testing, and *as built drawings on AutoCad* for complete sprinkler protection throughout the building . . ." (Emphasis added). (R4, tab 300)

The requirements for as-builts on AutoCAD are further addressed in the Fire Protection specification, Section 15500, at SUBMITTALS, paragraph 1.6.C that requires, *inter alia*, that: "Detailed drawings shall be prepared in accordance with

NFPA 13." The NFPA requirements for as-builts are both extensive and detailed. (R4 tabs 300, 359)

The Contractor's first submittal of its construction progress chart and schedule of values was dated December 28, 1993. While it showed $5,000 budgeted for punch list work, there was no amount shown for the preparation of any as-built drawings. The progress chart's second line showed the activity identified as "survey/drafting" running only through day 150, with no such activity shown thereafter. The submittal was returned "disapproved" on January 27, 1974. (R4, tabs 301, 303)

During a meeting held on April 5, 1994, several issues were discussed between representatives of FSS and the VA. The CO and COTR were present, as were Mr. Hayes and Mr. Allen of FSS. The CO asked that FSS provide a revised cost breakdown. She stressed her concern particularly over the pricing of general conditions, warranty period services and as-builts. At that, an FSS representative asked that he be shown where the Contract required the submission of as-built drawings, stating that he did not believe that such submission was the responsibility of FSS. After the CO pointed out that part of the specification that required submittals such as as-builts, the FSS representative promised to specify a cost for the as-builts and stated that he would redistribute funds within his schedule of costs. (R4, tab 43)

The Contractor's resubmittal of April 20, 1994 increased the line item for drafting from $125,382 to $181,239 and showed an additional $5,000 for as-built drawings. While the overall Contract price remained unchanged, the line item designated for "General Conditions," was reduced by the amounts added for drawing survey and preparation. (R4, tabs 301-304)

Between June, 1995 and February, 1996, the VA asked FSS to provide copies of drawings that reflected the work being performed. In a letter dated

February 2, 1996, the CO again reminded the Contractor of its duty to provide as-built drawings. She stated that: "As-built drawings are required at the conclusion of the project indicating any changes during installation, changes to the contract, all corrective action necessary during final inspection are to be shown on the drawings." The CO repeated her demand for as-built drawings on AutoCAD in her letters of March 8 and April 17, 1996 and February 3, 1997. (R4, tabs 197, 213, 226, 230, 239, 272)

A submittal cover sheet dated September 23, 1996, signed by Duane Barry, the FSS Engineering Manager, was directed to the CO's attention. According to that document, the Contractor furnished the following: "'As-Built' Drawings (per Punch list Mods) for Zones #1 - #32 on AutoCAD." In addition, the Remarks Section of the sheet indicates that additional files on disk were being furnished so that "when the drawings are opened the fonts utilized will appear." (R4, tab 271)

In a letter of February 11, 1997, Project Manager John Allen responded to the CO's demand that the as-builts show the location of the tamper switches and their circuits that were installed in the subbasement. Mr. Allen justified omitting tamper switches, stating that these devices were a constructive change to the Contract. In closing, Allen referenced the Contractor's September, 1996 transmittal letter that showed "all corrections and locations of installation for the fire sprinkler system up to and including all punch list modifications made through September, 1996." (R4, tab 273)

The CO responded in a letter dated February 12, 1997, refuting Mr. Allen's assertion that the prior submission had included properly updated drawings. She stated that the AutoCAD drawings previously provided by FSS were "nothing more than shop drawings," and that they failed to reflect actual changes and conditions made during construction. She concluded with the

statement that "[a]s-built drawings of the fire alarm system, installed and modified, have never been provided." She requested compliance by not later than February 25, 1997. (R4, tab 274)

In a letter dated February 21, 1997, Mr. Hayes advised the CO that she was mistaken about the nature of the AutoCAD previously furnished by FSS. He stated that the [September] submission had included the original sprinkler design plus all change orders and modifications. He did however, promise to review the AutoCAD disks and drawings and send a "report or corrected [disk] within 30 days." (R4, tab 275)

The COTR, in a memorandum dated March 3, 1997, again advised the CO that the AutoCAD disks that FSS had submitted in September, 1996 "did NOT include the change orders and field modifications." Mr. Atchley asked that the CO once more request the Contractor to furnish as-built drawings as required. Following this advice, the CO, by letter of March 4,1997, explained the need to show all items installed in accordance with change orders, including the (disputed) tamper switches. She again requested as-built drawings showing "all physical locations of items as installed." (R4, tabs 276, 277)

In his letter of April 2, 1997, Mr. Hayes advised the CO that he had "reviewed the [as-built] drawings furnished you and these drawings need to be updated to show changes made by FSS and Tech Electronics [its subcontractor] that were done after issuance of the as-builts to the VA." He expected to provide these updated documents to the VA within two weeks. On April 23, 1997, the CO reminded FSS of its commitment to provide the as-builts, stating that they had not been received and were needed immediately, so that the hospital could receive Joint Committee on Accreditation of Healthcare Organizations (JCAHO) certification. (R4, tabs 278, 279)

After another request by the CO, Mr. Hayes forwarded, in a June 10, 1997 submittal, AutoCAD as-builts for two areas involved in Contract modifications: pipe basement demolition and Zone #5 modification. Each of the two updates were identified by their AutoCAD drawing file names. (R4, tab 281)

On June 24, 1997, the CO acknowledged receipt of the Contractor's June 10 as-builts, but noted that they showed only two zones of the building. She asked for as-builts of the building's other zones in which piping was routed differently from the approved shop drawings. Once again, she demanded drawings reflective of actual installation rather than of the installation intended. The CO also advised that FSS had failed to submit as-built drawings for the *fire alarm system*. She asked that these as-builts be submitted by July 11, 1997. (R4, tab 282)

In a letter dated July 29, 1997, the FSS Engineering Manager, Mr.Barry, responded to the CO's June 24 letter. He disputed the CO's contention that the Contractor had failed to provide up-dated drawings on Auto-CAD. Mr. Barry referred to prior submittals, including the one dated September 23, 1996. He stated that "the final set of as-built documents [was] amended to reflect all of the latest changes up until the completion of all the "Punchlist" modifications and any other field modifications which may have been made as of [September 23, 1996]." In Barry's view, that completed the Contractor's obligation with respect to the fire sprinkler system. With respect to the subcontracted fire alarm system, He stated that those as-builts would be hand-delivered to the VA at the time of final inspection of the fire alarm system, then scheduled for August 6, 1997. He expressed his position that the VA was entitled only to "field marked-up" drawing copies, because the specifications did not require fire alarm system components to be done on AutoCAD. (R4, tab 283)

In her August 8, 1997 response to Mr. Barry's letter, the CO restated her position that FSS had failed to comply with the Contract requirement for

AutoCAD as-built drawings. She warned the Contractor that if it failed to comply, the VA would procure the services elsewhere and charge the cost against this Contract. With respect to Mr. Barry's interpretation of the specifications, the CO advised as follows:

> I direct you to 'Statement of Bid Items, Bid Item 1: Work includes the design, installation, testing, and as-built drawings on AutoCad for complete sprinkler protection throughout the building, removal of existing occupant use hose rack valves and piping, replacement of existing jockey pump, upgrade to the building fire alarm system, inspection and maintenance of existing fire dampers, installation of new fire dampers, upgrade of stairway construction, sealing of floor penetrations, replacement of various doors and the upgrade of corridor walls.' Everything under this contract is to be on AutoCad not just a portion of it. You do not get to pick and choose which portion you wish to provide on AutoCad.

(R4, tab 284)

In an updated August 18, 1997 time line of events/ correspondence relating to the dispute over as-builts, the COTR recorded that Contractor had still not provided record drawings showing changes made during construction. The CO testified that the VA finally gave up in its efforts to secure acceptable as-builts from FSS and contracted with another firm to prepare the record drawings. Notwithstanding the Contractor's failure to provide acceptable as-built drawings, the VA did pay FSS for that line item. The Government has not sought to recover this amount from the Appellant. (R4, tab 286; Tr. I/253-56)

Mr. Hayes testified that Contractor personnel were required to field measure for, and make their own shop drawings, once more contending that he had reasonably planned to utilize a complete set of background drawings to be furnished on AutoCAD by the VA. Mr. Hayes further asserted that the VA insisted that FSS depict all corrected punch list items on the as-builts. Mr. Hayes considered this to be excessive and beyond the scope of as-builts. He testified

that his firm nevertheless did update the drawings, and that the as-builts were consistent with what was in the field.
(Tr. I/218-47)

COTR Atchley testified that he reviewed at least two submittals by FSS of the purported as-builts on disks. Each time, he recommended rejection after randomly checking field conditions and comparing with the information from the disks. He stated that the Contractor's as-built drawings were essentially the same as the Contractor's approved shop drawings. (Tr. I/248-49)

According to the COTR, these purported as-builts failed to show where the sprinkler heads and pipes were located after completion of the several modifications to the basic Contract. As such, the drawings were useless to the VA. In his words:

> I compared the now purported to be as-built drawings with the shop drawings that I had in my possession, and in every case, bar none . . . what was shown on the as-built drawings was exactly as shown on the shop drawings. There were none of the head changes. Where we had added or taken out walls, thus requiring that heads be moved, added, deleted, whatever, not one instance showed up on the drawings that were purported to be as-builts. That in a nutshell is the reason that we sent those drawings back; did not accept those drawings as record drawings, commonly called as-built drawings.

(Tr. XI/157-58)

FSS presented no convincing physical evidence to rebut the COTR's testimony regarding the sufficiency of the Contractor's proffered as-built drawings, such as the drawings themselves or the AutoCAD disks that FSS considered to comply with the requirement for as-built drawings. Neither Project Manager Allen nor Mr. Barry, the Engineering Manager who stated that he had made the submissions, were called by FSS to testify.

The Appellant's revised claim is in the amount of $7,944. Of that amount, the total base cost of engineering labor is stated as $6,017.31, representing 276

man-hours. There is nothing in the record to show how this $6,017.31 relates to the $5,000 budgeted by Appellant for preparation of as-built drawings and whether these claimed hours are in addition to the hours covered by the budgeted amount. Neither does the calculation reflect any credit for amounts already paid by the VA for these as-built drawings. (R4 Supp., tab 534)

VABCA-5560:DISCUSSION & DECISION

The Contract clearly required FSS to prepare as-built drawings of the fire sprinkler protection system in AutoCAD format for the VA at the conclusion of the project. The Appellant has not persuaded the Board that it furnished acceptable as-builts for this project, or that the 276 hours of engineering hours that it claims to have expended was a change to the Contract. The record of correspondence, together with the COTR's testimony that the drawings that were submitted by FSS amounted to nothing more than the original shop drawings, without depicting changes in sprinkler heads and piping, was persuasive. The Appellant might have attempted to strengthen its position by introducing any as-builts (drawings/disks) that it did prepare. No such evidence was forthcoming. The Appellant has not met its burden of proof. The Board is left to conclude that insufficient effort was expended by Appellant in connection with preparation of as-built drawings for the fire sprinkler system as installed.

With respect to the building fire alarm system, the specifications do not *clearly* call for AutoCAD as-builts as is the case for the fire sprinkler protection system. There is no credible evidence, however, that either FSS or its fire alarm subcontractor actually furnished anything more than marked-up shop drawings of the alarm system that was installed. We find no independent basis for recovery in this regard.

The Appellant reiterates its arguments regarding its expectation of receiving a complete set of all necessary drawings and data in AutoCAD format. From that expectation, Appellant asserts that its alleged additional drafting costs were caused by the need to create its own AutoCAD drawings to be used as a starting point for the eventual as-built drawings. We have already addressed and rejected that contention in VABCA-5559, *supra*. As was the case with that appeal, the Appellant fails to carry its burden of proving entitlement to any additional compensation for drawing preparation. The appeal is ***denied***.

VABCA 5561-62: FINDINGS OF FACT

Pipe Removal

Specification Section 15500, titled FIRE PROTECTION, contains the following relevant information: According to Part 1.2.E: "All existing sprinkler piping shall be removed or reused as noted on the drawings;" Under Part 3, titled EXECUTION, Paragraph 3.2.A states that: "Existing sprinkler system components shall be incorporated into the new system or removed. All existing sprinklers are to be removed and replaced." (R4, tab 300)

In the GENERAL REQUIREMENTS, Section 01010 of the Contract, at Paragraphs 1.1: "GENERAL INTENTION," and again in Paragraph 1.2: "STATEMENT OF BID ITEMS," there are many specific work items mentioned. One of those items included in the base bid is the "removal of existing . . . piping."

Contract Drawings FP-2 through FP-9 show the floor plans of the areas where work is to be done to correct the FSES deficiencies within the hospital building. On the right-hand side of all of these drawings are legends containing the various symbols found on that particular drawing. To the left of each symbol is a description of the corresponding task to be performed.

With respect to sprinkler piping, three symbols consistently appear on each drawing's legend. The first symbol, a *solid* line, is described as "NEW

SPRINKLER PIPE." The second symbol, a dashed (or "intermittent") line is described as "EXISTING SPRINKLER PIPING REVISE OR REPLACE." The third symbol, a solid line with cross-hatching, is described as "EXISTING SPRINKLER PIPING TO BE REMOVED." This is the only symbol that contains any cross-hatching. Other than these particular symbols, there is nothing else on any of these legends that pertains to the installation or disposition of sprinkler piping.

On each of the floor plans, Drawings FP- 2 through FP-9, are numerous lines with cross-hatching. All of the cross-hatched lines shown on the eight drawings are *dashed* - not solid as shown on the legends. Altogether, there are approximately 7,137 linear feet of these cross-hatched dashed lines depicted on the eight floor plans. Other than a few small lengths of piping that might be interpreted as solid dashed lines – but which FSS attributed to sloppy drafting, none of the drawings contain isolated runs of cross-hatched solid lines as depicted on the legends. (R4, tab 299, Tr. IX/15-18, I/276-79)

According to the A/E, some of the existing piping was designated to be removed (rather than revised and replaced) because of such factors as improper hangers and connections, and in some instances, inconvenient access, coupled with the pipes' age and condition. Mr. Van Overmeiren testified that the eight drawings actually reflected the designer's intent to depict the pipes to be removed as cross-hatched dashed lines. These lines were hand-drawn on the floor plans. The symbol replicated on the legends was computer-generated, with one of the two cross-hatches inadvertently placed in the space between the dashed lines. (Tr. I/294-97)

In reviewing the bid takeoffs that John Allen (former Project Manager) had prepared from these drawings, Mr. Hayes could not identify any existing sprinkler piping that was priced to be removed. He could only conjecture that Mr. Allen may have intended to reuse some of the existing piping. Mr. Hayes

did not participate in these particular bid takeoffs and Mr. Allen was not called to testify. (Tr. I/260-65, 28-82, R4 Supp., tab 538)

Mr. Hayes testified that his firm did not make any pre-bid inquiry concerning the lack of a symbol precisely corresponding to the cross-hatched dashed lines shown on the drawings. He saw no such need. He observed that on previous projects, he had seen legends pertaining to work not to be done as a part of those projects. (Tr. I/281-82, 291-92)

During its final inspection of the project, the VA prepared a Punch List dated March 18, 1996. Numerous entries noted the failure to remove abandoned piping and/or associated hangers throughout the building. Under protest, FSS removed the abandoned sprinkler piping and subsequently filed two claims with the VA. One claim encompassed pipe removal within the upper floors, in the amount of $73,716 (as revised). The other claim, based on the same interpretations of the floor plan symbols, covered pipe removal in the sub-basement, in the amount of $134,989 (as revised). The CO denied the claims and they were appealed to the Board and docketed as VABCA Nos. 5561 and 5562. (R4, tab 231, Exh. A-5; Amended Complaint)

In Zones 1, 2, 4, 5, 7, 10, 20, the Contractor reused "notable quantities" of that piping represented with cross-hatched dashed lines, rather than removing the piping as the VA ultimately directed FSS to do. (Tr. IX/21-22; R4, tab 158)

VABCA 5561-62: DISCUSSION & DECISION

Although these two appeals concern pipe removal from different areas of the project, the dispute over contract interpretation is the same in both. The legends' only drawing symbol that indicated *removal* of sprinkler piping was the solid line with cross-hatching. The Board has closely examined the Contract Drawings. In every case where the floor plans show lines with cross-hatching, those lines are dashed – not solid. There is no corresponding symbol shown on

any of the drawing legends. The *only* symbol on any drawing legend that has cross-hatching is the one with a solid line. Instead of questioning what the dashed cross-hatched lines on *all nine* floor plan drawings meant, and making an inquiry before bidding, Appellant's estimator simply ignored that symbol, failing to calculate any price for *removal* of sprinkler piping.

If one looks only at the symbols on the drawing legends, then Appellant is technically correct that the legends' symbol for sprinkler pipe removal (solid line with hatch marks) does not correspond precisely to any symbol contained on the nine floor plan drawings. However, we are confronted with numerous symbols (dashed lines with hash marks) that permeate all the floor plans shown, and which are rendered meaningless by Appellant's interpretation.

There are other indications of the Government's intentions than the information contained on the Contract Drawings. The Contract's GENERAL REQUIREMENTS, Section 01010, in two separate paragraphs calls for the removal of existing sprinkler piping. Section 15500, paragraph 1.1.E states: "All existing sprinkler piping shall be removed or reused *as noted on the drawings*." In that same Specification, paragraph 3.2.A states: "Existing sprinkler system components shall be incorporated into the new system *or removed*." (Emphasis added).

The individual who prepared the bid estimate for Appellant did not include any price for removal of the existing sprinkler piping, because he saw no solid lines with cross-hatching as depicted on the various floor plan symbol legends. He evidently assumed that these particular cross-hatched lines, whatever they meant, were not a part of the Contract work. In the Appellant's view, where the specification states that "[a]ll existing sprinkler piping shall be removed or reused as noted on the drawings," it literally means that if the depiction on the drawing fails to conform to any symbol on the legend, it is not

"noted on the drawings." Appellant made no inquiry to the VA, prior to bidding, with respect to the specification's instructions to remove any piping not incorporated into the new system, nor why the dashed lines with cross-hatching were not depicted on the legends. Appellant's literal interpretation of the phrase "as noted on the drawings," created a patent ambiguity with the numerous depictions of work shown to be done but for which there was no precise corresponding symbol on any of the drawings' legends.

With respect to the term "as noted on the drawings," *see* ***Hoffman Construction Company, Inc.***, VABCA No. 3676, *et al*., 93-3 BCA ¶ 26,110. In those appeals, where an item of work was clearly required by Section 02300 of the specification but was not "indicated on the drawings," as instructed by Section 07130, the Board held that "this internal contradiction creates an obvious, *i.e.*, *patent,* ambiguity with regard to what the Government really meant." *Id*., at 129,782 (emphasis added). Our predecessor Board reiterated the following principle:

> Where contract work is required by a provision expressed in terms of general application, the mere failure to supply the construction details for a particular location or part of such work is not to be regarded as sufficient in itself to indicate intent to omit that particular work from the general requirement. ***Blackhawk Heating & Plumbing Co., Inc.***, VACAB No. 640, 68-1 BCA ¶ 6,985.

George E. Newsom, General Contractor, VACAB No. 1500, 80-2 BCA ¶14,490 at 71,443, *aff'd*., ***George E. Newsom v. United States***, 676 F.2d 647 (Ct. Cl. 1982)

At the very least, the ubiquity of the cross-hatched symbol on all of the project floor plans, with no identifying description on any of the several Drawing legends, should have prompted a pre-bid inquiry. This was a Contract to correct fire safety deficiencies at the VA's hospital building. Under Bid Item I, the base bid of the IFB, one of the several expressly-stated categories of work was the "removal of existing . . . piping." It is obvious that the Contract anticipated a

complete project, including the removal of any piping not otherwise designated to be reused. By failing to remove the sprinkler piping in dispute until directed to do so by the VA, Appellant took a position counter to the overall intent of the Contract, when read as a whole.

Additionally, in ignoring the floor plans' dashed lines with cross-hatching by its literal interpretation of the symbol shown on the legend, the Appellant necessarily had to disregard the specification's requirement to remove any existing sprinkler piping not incorporated into the new system. When a contractor's interpretation of a drawing leads to a conflict with a specification, the conflict is resolved by application of FAR clause, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, which instructs that language of the specification takes precedence over any conflicting interpretation of a drawing. ***John A. Volpe Construction Co., Inc.***, VACAB No. 638, 68-1 BCA ¶ 68,567; ***Conner Brothers Construction Co., Inc.***, VABCA Nos. 2504 *et al.*, 95-2 BCA ¶ 27,910, *aff'd.*, ***Conner Brothers Construction Co., Inc. v. Brown,*** 113 F.3d 1256 (Fed. Cir. 1997).

Even without the above-cited FAR provision of this Contract, the Appellant's position would be untenable. As this Board recently observed:

> It is a well-settled principle of federal contract law that . . . [A]n interpretation which gives reasonable meaning to all parts of an instrument will be preferred to one which leaves a portion of it useless, inexplicable, inoperative, void, insignificant, meaningless or superfluous; nor should any provision be construed in conflict with another unless no other reasonable interpretation is possible.

Moreland Corporation, VABCA Nos. 5409, 5410, 00-1 BCA ¶ 30,640 at 151,296, *citing* ***Hol-Gar Manufacturing Corporation v. United States***, 351 F.2d 972, 979 (Ct. Cl. 1965).

The Appellant has asserted that, in its experience, it is not unusual for a construction contract to include depictions of work items not actually covered by

that contract. While that may be the case with respect to "boilerplate" provisions and maybe for work to be done by others (usually labeled as such), it is irrelevant to this particular dispute. Here, as we have already discussed, no reasonable bidder would disregard a symbol that appeared in numerous locations on all floor plans, and that could easily be seen as a drafting error in which the symbols on the legends had been inadvertently printed as a solid line with hatch-marks instead of the dashed line with hatch-marks depicted on all the floor plans. As both parties agreed, these symbols covered over 7,000 linear feet of existing sprinkler piping shown on the drawings. It would be "a stretch," even without the many indicators in the specifications, to conclude that such symbols were meaningless to this procurement. Furthermore, the Contractor's actions belied that interpretation. If these disputed symbols meant nothing to FSS, then it had no business reusing some of that same piping instead of leaving it alone for *others* to deal with.

As we have stated, the Appellant's interpretation of the symbols in question, contrasted with the intent of the Contract as expressed in the specifications and the numerous cross-hatched lines depicted on all floor plans, which depictions would be rendered meaningless by that interpretation, created a patent ambiguity. By failing to seek a pre-bid clarification, Appellant acted unreasonably and is not entitled to any equitable adjustment in connection with removal of the existing sprinkler piping in either of the areas in dispute. ***Beacon Construction Co. v. United States***, 314 F.2d 501, 504 (Ct. Cl. 1963); ***Community Heating & Plumbing Co., Inc. v. Kelso***, 987 F.2d 1575, 1579-80 (Fed. Cir. 1993). These appeals, VABCA Nos. 5561 and 5562, are ***denied***.

VABCA-5567: FINDINGS OF FACT

A. Door Frames

Contract Drawing A-10 includes, *inter alia*, a detail of two doors located at Rooms C-05 and C-05A – Detail (photo) A05. An adjacent note pointing to the doors in the photograph states: "Replace Doors & Frames with 1-1/2 Hr. B Label Doors & Frames." In addition to this specifically worded note, the Detail also references key note 21. (R4, tab 299)

Contract Drawing A-1 contains a list of "Scope of Work Items" which are referenced on the A-Series Drawings. Item 21 reads as follows:

> 21. Replace doors to Rooms C-05 and C-05A near loading dock with 1-1/2 hr. B-label doors. Seal louvers in storage room walls adjacent to basement exit at Col. A4. Extend walls to slab above.

By Amendment #2 to the Solicitation, the VA instructed the bidders to replace all of the Scope of Work Items on Contract Drawing A-1 as indicated. With respect to Item 21, the substituted language reads as follows:

> 21. Separate exit discharges from other areas of the building.
>
> a. Replace existing louvered doors to Rooms CO5 and CO5A with 1-1/2 hr. labeled doors.
>
> b. Plan and details on Sheet A8 show the extension of the walls of the two storage rooms (outside the exit door at column A4 in the basement) to the concrete deck above. Seal the two vents in these walls adjacent to the exit doors. See photo A13/A10.

(R4, tab 299)

The Specification required in §08110, ¶2.4 A 3, "Metal Frames," that "[f]rames for *labeled fire rated doors* [be constructed] to comply with requirements of NFPA 80 where tested by the Underwriters Laboratories, Inc., Warnock Hersey or Factory Mutual for the class of frame specified." (R4 tab 300).

Nothing in Amendment #2 specifically changed the existing language of the above-cited Specification or the note adjacent to Detail A05 on Drawing A-10. Together, the doors and frames constitute a system by which fire would be resisted for at least 1-1/2 hours. Together, the frames, the doors and hardware must be equally fire-rated in order to provide this period of fire protection. This uniformity of rating is required by NFPA 80, and is consistent with the overall purpose of this Contract to correct just such fire safety deficiencies as the unrated door frames. (Tr. III/19, 55-56, 60-61)

When, in March 1995, it became evident that the Contractor did not intend to install fire rated frames for the new doors at Rooms C-05 and C-05A, the CO wrote to FSS instructing that the existing door frames be replaced as called for by Drawing A-10. The CO explained that Amendment #2 changed *only* the description of the doors and that the frames must still meet the requirements of Drawing A-10. The CO repeated the direction to install the frames in her letter to FSS dated September 11, 1995. (R4, tabs 169, 214)

In a letter of September 19, 1995, the Contractor's Project Manager responded to the CO's demand:

> FSSI did not estimate and/or price the replacement of door jambs for CO5 and CO5A. Amendment #2 changed the scope of work for doors on rooms CO5 and CO5A from 1-1/2 HR-B Label doors to 1-1/2 HR doors. Drawing A-1 Scope of Work Items Note in Rectangle Box states "refer to this list for Scope Items noted on all A sheets." Note 21 states "replace doors to Rooms C-05 and C-05A." This does not mention door frames. Please also note that all items #1- #43 supercedes (sic) all notes on "A" sheets per note in Rectangle Box. FSSI is requesting your final decision in this matter.

(R4, tab 215)

FSS received a subcontractor price proposal to provide and install the two fire-rated hollow door frames from Wirth Construction Services

in the amount of $3,345. The Contractor ultimately installed the fire rated door frames and submitted a claim for this aspect of work, in the amount of $3,774. (R4, tab 356; Amended Complaint)

B. Louvers

Contract Drawing HE-2 is a floor plan of the basement area. In two different locations on that plan, indicated by arrows, this same note appears: "12" x 12" Louver and Insect Screen High and Low." With each of the two notes, there are arrows pointing to two locations of louvers and insect screens extending through exterior walls of Rooms A-33, A-33A, C-05 and C-05A. Only two other kinds of notes are found on this Drawing. In two places, a note tells the contractor *to relocate* existing magnetic door holders. In one other place, the note instructs *to lower* existing light fixtures. (Emphasis added) No other information is given on this Drawing with respect to these three notes. No notes accompany any other of the features (structural, mechanical, etc.) shown on this particular floor plan. (R4, tab 299)

At the time the Project was bid and the Contract awarded, there were no existing louvers in the exterior basement walls where the arrows pointed on Drawing HE-2. The VA had intended for these louvers to be installed in the exterior walls of the two rooms where medical gasses were to be stored. They would provide ventilation to prevent overheating. They were intended to replace the louvers in the non-rated fire doors (for the same rooms) dealt with in Amendment #1 to the IFB. (Tr. III/63-66)

On June 13, 1995, COTR Atchley met with the FSS superintendent to explain the need for 12" x 12" louvers in the rooms indicated on Contract Drawing HE-2. Thereafter, the Contractor took the position that the drawing lacked any language directing that such louvers be installed. In the Contractor's

view, "this is just a note on a drawing." FSS also advised CO White that the location of the symbols on Rooms C05 and C05A were on a structural member and that an alternate location for cutting through the wall be designated. So stating, FSS requested that the CO issue a request for a change order proposal. (R4, tab 192)

The CO responded on June 28, 1995, stating that there was no structural column at the location depicted on the drawing. She further stated that as the louvers were clearly identified on the drawing, no change order was warranted. (R4, tab 193)

The Contractor held to its position that there was structural interference at the designated walls and suggested an alternate location through the headers above the doors. This was considered preferable "to cutting 14" walls 4 times." (R4, tab 200)

Finally, on September 1, 1995, FSS submitted a price proposal to the VA. It consisted of a subcontractor quote from Wirth Construction Services in the amount of $10,242 for all labor and materials (exclusive of the prime's markup and fee) to cut the necessary holes through what it contended to be 13" structural concrete walls. Wirth proposed to cut three 12" x 12" holes for similarly sized louvers and one hole for a louver measuring 8" x 18". The proposal included the louvers, insect screens, flange, ductwork and interior trim. Once more, FSS requested a "final decision," from the CO, asking that she have the Project A/E determine whether the wall was structural or not. (R4, tab 212)

Previously, in a letter dated August 21, 1995, CO White had reminded FSS that it had not made a submittal for wall-type louvers "as specified in the contract." She asked that FSS make such a submission. On September 11, 1995, the CO again called the Contractor's attention to the need to install the louvers

and insect screens in the walls of the basement rooms shown on Drawing HE-2. (R4, tabs 206, 214)

The Contractor ultimately acceded to the CO's demands and had its subcontractor install the louvers and screens through the concrete walls. In accordance with its amended Complaint, Appellant now seeks an equitable adjustment of $5,885 with a 10% fee and a bond adjustment of .93%. This comes to a total of $6,534. This reflects a second quote received from Hulett Heating & Air Conditioning Co. While asserting that the Contactor should have included the cost of the wall louvers in its bid, the A/E's Mr. Van Overmeiren testified to the reasonableness of the direct costs and Contractor fees being claimed. (R4, tab 353; App. Supp., tab 534, Tr. IX/156-57)

The Contractor's president testified that because there were no specification or drawing details relating to the Contractor's responsibility to actually provide these louvers, FSS did not price the installation of these particular louvers in its bid. (Tr. III/36)

VABCA-5567: DISCUSSION & DECISION

A. Door Frames

Amendment #2 to the Solicitation explicitly replaced "all Scope of Work items on Contract Drawing A-1." The Appellant argues that since the amended language required only that the doors be replaced, with no mention of door frames, the door frame installation previously called for on Drawing A-1 (adjacent to Detail A05) was no longer its contractual responsibility.

The Government counters that the amended Item 21 simply dropped the requirement that 1-1/2 hour fire-rated doors be "B-label[ed]," and did not in any way change the *separate language* displayed on the Drawing adjacent to the

doorways for Rooms C-05 and C-05A. That language clearly required that doors *and* frames be installed.

The Government has the only reasonable position. Work Item 21, both before and after the amendment, never mentioned the installation of frames. The separate note affixed to Detail A05 of Drawing A-10 was not changed by the amendment, nor were the relevant references in the specification. Moreover, As the purpose of this Contract was *to correct fire safety deficiencies*, it would make no sense to replace fire-rated doors while leaving non-fire-rated door frames in place. This would result in a "semi-fire proof" barrier. In case of a fire, the door would only serve as a fire barrier so long as the more combustible frame remained standing. The 1-1/2 hour fire rating would thus be meaningless. Any reasonable bidder experienced in the installation of fire protection systems, particularly with design/build responsibilities for complete fire protection required by this Contract, would understand that the frames must be replaced. *See* ***Grinnell Fire Protection Systems Company***, VABCA Nos. 5672, 5859, 00-1 BCA ¶ 30,662. This portion of the appeal is ***denied***

B. Louvers

The floor plan for the basement area shown on Drawing HE-2 has few specific labels affixed to any structural or mechanical details. Of the three specific labels, two begin with either "Relocate" or "Lower." Because the labels relating to (wall) louvers do not begin with such words of direction, Appellant argues that, in essence, the label is *for information only* and does not require any action by the Contractor.

This Contract was for the design and construction of an adequate fire safety system at the hospital. The Contractor was not, however, required to be a mind reader. When several featured items on a drawing are accompanied by such words of direction as "relocate," or "lower," another labeled item

containing no such words of direction could be construed to be simply a label of an existing feature in the particular room depicted. Applying the interpretative rule of *ejusdem generis*, where there are several items described by words of direction, an item having no words of direction attached could be interpreted as not requiring action by the Contractor. If there is any ambiguity, it is latent – not blatant. In such cases, the ambiguity is construed against the drafter, here the VA. It is not necessary that the Appellant's interpretation be the most reasonable, but only that it be within the "zone of reasonableness." In this dispute, the Appellant's interpretation meets this standard. ***WPC Enterprises, Inc. v. United States***, 323 F.2d 874 (Ct. Cl. 1963); ***Pipe Installation Co., Inc.***, VABCA No. 2157, 86-3 BCA ¶ 19,055.

While it is *now* obvious that these wall louvers were intended to replace the louvers that previously were part of the non-rated doors in order to provide ventilation for the medical gasses stored in those rooms, there was nothing on the specifications or drawings that made this situation obvious. Furthermore, as we have already found, those replacement doors were not originally a part of the IFB, but were added by Amendment #2. While a bidder is required to price its bid on all work called for by such an amendment, it is nevertheless understandable that a Contractor would not necessarily make the connection between the replacement doors and the inadequately labeled louvers shown on the drawing. The Louvers portion of this appeal is ***sustained*** in the amount of $6,534.

VABCA-5568: FINDINGS OF FACT

Pendent Sprinklers/Escutcheons Replacement

Contract Specification 15500, paragraph 3.2.A, states: "All existing sprinklers are to be removed and replaced." In that same Specification, at paragraph 2.4, titled "Sprinklers," the following information is given:

> UL Listed; Quick response sprinklers shall be standard type tested in accordance with UL-199, except as noted below. The maximum distance from the deflector to finished ceiling shall be 1-7/8 inches for pendent sprinklers except as noted below. At the specified locations provide the following type of sprinklers:

Only two of the pendent sprinklers listed for these listed locations contain exceptions to the 1-7/8 inch projection limitation, and these actually shorten the projections to 1/2 inch and 7/8 inch. In no case does the Specification allow for a projection of *pendent* sprinkler deflectors greater than 1-7/8 inches. (R4, tab 300)

Most of the rooms and areas in the hospital had overhead lights that were mounted to lay flush with the ceilings. However, some area ceilings still were equipped with the older surface-mounted light fixtures that were not being altered. Having conducted a pre-bid site visit, the Contractor's design personnel should have been aware of this situation. Pendent sprinklers extend down into the rooms below the finished ceilings. In some areas, FSS designed the sprinkler layout with the pendent sprinkler heads sufficiently clear of the sidewalls of the light fixtures so that the sprinkler deflectors were no greater than 1-7/8 inches from the finished ceilings. This complied with Specification Section 15500, paragraph 2.4. In other areas, however, in order to save the expense of revising piping layouts to avoid close proximity to light fixture sidewalls, the Contractor chose to extend the sprinkler heads with lengths (using two-piece escutcheons) in excess of the requisite 1-7/8 inches from the ceiling. (Tr. II/158-71; II/176-77).

Upon conducting its final inspection, the VA, in conjunction with its A/E, discovered that in several areas of the Medical Center, the projection distance from finished ceilings to pendent sprinkler head deflectors exceeded the maximum length called out in the specifications. FSS had utilized two-piece escutcheons to cover the ceiling holes and hide the pipe. These non-conforming installations occurred in areas that had surface mounted fluorescent light

fixtures, a condition that existed in several rooms as well as small closets or compartments, in a total of twenty-five different locations. (II/153-77; II/189)

As a result of its final inspection, the VA prepared a Punch List dated March 18, 1996. Under "General Items," paragraph 4, the VA noted that:

> Paragraph 2.4 within Section 15500 has requirements for the maximum distance from the sprinkler deflector to the finished ceilings. The distance is 1-7/8 inches for pendent sprinklers except as specifically noted otherwise. Several areas throughout the hospital, including the occupational therapy area and library were noted to utilize two piece escutcheons. The rooms where two piece escutcheons were noted utilized the surface mounted lighting fixtures. NFPA guidelines would require the sprinkler deflectors to be lower than 1-7/8 inches if the sprinkler was within close proximity to the lighting fixtures. None of the rooms noted appeared to have lighting fixtures located so close that adequate sprinkler protection could not be provided that would avoid obstruction from the lighting fixtures.

(R4, tab 231)

Paragraph 2-5 of the Punch List, however, indicated that the only way to achieve the 1-7/8 inch projection limitation in the Occupational Therapy Room would be to relocate the sprinklers "to avoid horizontal obstructions with surface-mounted lighting fixtures." (R4, tab 231)

The Appellant corrected the situation in some locations, by revising its sprinkler piping installation and relocating sprinkler heads and pipes away from close proximity to the ceiling obstructions. In others, where the code allowed, FSS simply replaced the longer sprinklers with shorter ones. The Contractor also replaced the two-piece escutcheons with devices more appropriate for the shorter sprinkler pipe lengths. The VA accepted this corrected punch list work and the Appellant filed its claim for the cost of making the corrections, in the total amount of $14,835. (Tr. II/167, Tr. XI/103-04, Amended Complaint)

Mr. Hayes testified that FSS installed the pendent sprinklers (with two-piece escutcheons) at lengths to the deflectors that exceeded 1-7/8 inches in several rooms, in order to clear the nearby surface-mounted light fixtures. He stressed that the code, NFPA 13, allows for pendent sprinklers to project for distances of from 1 to 4 inches from ceiling to deflector. The A/E acknowledged this code allowance, but pointed out that the code represents a minimum installation standard while the specification clearly imposes a more stringent installation standard, limiting the maximum projection to 1-7/8 inches for pendent sprinklers. (Tr. II/153-54; Tr. II/178)

Mr. Hayes seemed to be testifying that the sprinklers in dispute are "Quick response" types that are not pendent sprinklers and hence not subject to the projection limitation. The A/E testified without rebuttal, that "Quick Response" refers not to the structural design of a sprinkler (how the arms support the deflector head), but to how fast a particular type of sprinkler, whether pendent or not, is activated. A "Quick Response" head is activated more quickly than a standard head. The terms "Quick Response" and "pendent" are not mutually exclusive. All the sprinkler heads involved in this dispute were pendent types, whether "Quick Response" or standard. (Tr. II/189-92; Exh. G-1, Exh. A-2)

Specification Section 15500, Paragraph 1.1D states: "All existing sprinklers shall be replaced as noted on the drawings." Paragraph 3.2.A of the same section reads as follows: "Existing sprinkler system components shall be incorporated into the new system or removed. All existing sprinklers are to be removed and replaced." Mr. Hayes took the position that paragraph 1.1D requires only that FSS "remove the head that was there and put a new sprinkler back in its place." In his interpretation, the Contract did not require that FSS relocate or reposition any sprinklers and associated piping – as it had to do in order to reduce the

sprinkler projection to 1-7/8 inches and still avoid close proximity to the surface-mounted light fixtures. (Tr. II/199)

VABCA-5568: DISCUSSION & DECISION

The Specification at issue, Paragraph 2.4 of Section 15500, clearly requires pendent sprinklers to have a maximum distance from deflector to finished ceiling of 1-7/8 inches. There are no instances in any of the designated sprinkler installation areas that allow any *greater* projections of pendent sprinklers. In most areas, the Appellant installed pendant sprinklers in accordance with that limitation. However, where surface-mounted light fixtures were in close proximity to sprinkler heads, Appellant exceeded the projection limitation in order that the greater projection of the pendent sprinklers could clear the sides of the fixtures, allowing their deflectors to achieve spray patterns that complied with the fire safety requirements of NFPA 13.

On the record before us, however, this was not a situation that presented a choice of complying either with the Contract Sprinkler Specification or the NFPA. It was possible to design the piping layout for the areas in question so that the pendent sprinklers would be located at a sufficient distance from the surface-mounted light fixtures to comply with the code while still conforming to the 1-7/8 inch projection limitation. In its president's own words, FSS made the conscious decision to design the piping layout in these areas as it did, thus necessitating the installation of longer pendent sprinklers and escutcheons. It was a choice made solely by the Contractor to save time and effort. This choice was not dictated by physical or technical impossibility or the terms of the Contract. The Government was within its contractual rights in requiring that the situation be corrected so that the sprinkler deflectors were no farther from the ceilings than allowed by the Contract.

In interpreting Section 15500, paragraph 2.4, the Appellant asserts that somehow the Quick response sprinkler heads mentioned in the first sentence are not subject to the same projection limitation as are the pendent sprinklers mentioned in the second sentence. This position lacks merit. The A/E testified without rebuttal, that pendent sprinklers can be either Quick response or standard response, and that the speed of the sprinkler head (deflector) response has nothing to do with the structural configuration of whatever mechanism (such as pendent "arms") that supports the deflector assembly.

Specification Section 15500, paragraph 1.1.D requires that "all existing sprinklers shall be replaced as noted on the drawings." From this, Appellant concludes that it had no contractual responsibility to do anything other than replace all of the pendent sprinklers *in their precise pre-existing locations*. In its view, any requirement to relocate the sprinkler heads and their associated piping away from close proximity to surface-mounted light fixtures, even to comply with the requirements of NFPA 13, was extra-contractual. This argument ignores the express purpose of this Contract – to correct fire safety deficiencies in the existing hospital building. As we have previously discussed in earlier portions of this opinion, the Contractor was tasked with design as well as construction responsibilities. There were approximately twenty-five locations where the existing sprinkler heads were in such close proximity to the sidewalls of the light fixtures that their spray patterns would be distorted in contravention of NFPA 13. While a contractor making a pre-bid site visit might miss one or two such locations, it is inconceivable that as many as twenty-five such locations would be missed. Since most of the hospital building's fluorescent light fixtures were recessed, any such bulky surface-mounted fixtures literally "stood out." Certainly, during the post-award site survey, all such conditions had to be taken into account. Once this was considered, it would be obvious that since any

pendent sprinkler must extend no more than 1-7/8 inches below the ceiling, those sprinklers closest to the fixtures would have to be moved farther away. This was an inherent part of the Appellant's design and construction responsibility. ***Grinnell Fire Protection Systems Company***, VABCA Nos. 5672, 5859, 00-1 BCA ¶ 30,662. The Appeal is ***denied***.

VABCA-5569: FINDINGS OF FACT

Expansion Tank/Tanks

Contract Drawing FP-3, the Basement floor plan, contains a note pointing to a particular corridor whose one side is an exterior wall. The note reads: "Corridor to be protected with anti-freeze loop." This drawing note is a part of the original (unamended) Contract drawings. (R4, tab 299)

In issuing Amendment #2 to the Solicitation, the VA inserted an additional paragraph in Specification Section 15500, under PART 2 – PRODUCTS. That added provision reads as follows:

> 2.11 Back Flow Prevention
>
> A. Double Check Valve Assembly: UL Listed o[r] FM Approved. 8 inch minimum in diameter, maximum pressure loss of 3 psi at rated flow of 350 gpm and included on the Missouri Department of Natural Resources approved device list for Class I backflow hazards.
>
> B. Reduced Pressure Back Flow Preventer for Anti-Freeze Loop: UL Listed or FM Approved and included on the Missouri Department of Natural Resources approved device list for Class I backflow hazards.

(R4, tab 300)

This provision was added to the Contract in order to implement recent federal (EPA) and state (Missouri Department of Natural Resources) regulations that called for backflow prevention devices on anti-freeze loops to prevent

contamination of the facility's and the city's potable water system by the anti-freeze liquid within such loops. (Tr. III/162-65)

The 1991 edition of NFPA 13 was the code applicable at the time of Contract. Under the heading of "Anti-Freeze Systems," the code requires that:

> 3-5.3.1 A water control valve and two small solution test valves shall be provided as illustrated in Figure 3-5.3.
>
> Exception: When the connection between the antifreeze system and the wet pipe system incorporates a backflow prevention device, *an expansion chamber shall be provided* to compensate for the expansion of the antifreeze solution. (Emphasis added)

(R4, tab 359)

In order to comply with the Contract and the applicable code provisions, the Contractor proposed to install an enlarged length of pipe to act as an expansion chamber. The VA objected, taking the position that the expanded pipe was inadequate to the task. In a letter to FSS of June 11, 1996, the CO stated:

> NFPA 13 requires expansion chambers be provided with backflow preventers. The expansion chamber created by attaching a 2 ½" diameter by one foot pipe with a cap to a system creates a calculated expansion area of approximately 60 cubic inches (approximately one quart). It has been determined that the volume of the expansion of the expansion chamber should be at least 32 ½ gallon capacity to take into account the expansion of the liquid within the system. The volume of the proposed expansion chamber may be less if you submit calculations justifying the smaller volume. The expansion tank must be furnished.

(R4, tab 244)

In his responsive letter to the CO dated July 18, 1996, Mr. Hayes correctly asserted that the code spoke only of an "expansion chamber"– not a "tank." He stated that the expanded length of pipe complied with the code. He included calculations to support the use of the pipe as an expansion chamber. He first measured the length and diameter of the three sizes of all pipe that make up the

antifreeze loop (1", 1 ¼", 1 ½") and converted them to cubic inches per foot. He next multiplied each of these volumes by the total length of each diameter pipe, arriving at a system volume of 4,112.881 cubic inches, which was converted to 17.842 gallons. The applicable edition of NFPA 13 contained tables of expansion coefficients for various materials, including water at various temperatures. The code also stated that water flowing through the sprinkler system shall not exceed 120 degrees Fahrenheit / 48.889 degrees Celsius. He calculated the expansion coefficient for the antifreeze liquid at that maximum temperature and multiplied that coefficient by the total system volume to arrive at the volume of expanded liquid at maximum temperature. (1.011405 x 17.842 gallons = .203488 gallons.) This latter figure converts to 47.0057 cubic inches. The volume of the pipe-fashioned 2 ½" x 12" expansion chamber was calculated at 62.8 cubic inches, leaving more than enough capacity for the volume of the expanded liquid. The total system volume used in these calculations was based on the larger of the two antifreeze loops installed at the hospital. (R4, tab 250)

Based on technical advice from COTR Atchley, the CO sent a letter to FSS dated August 8, 1996. She offered to accept one of two options, either a bladder-type expansion tank rated at least equal to the maximum expected static pressure of the system or a 32½ gallon chamber. With regard to the calculations previously submitted by Mr. Hayes, she stated:

> The calculations you submitted in your July 18, 1996 letter are rejected because the volume of air in a piece of pipe at atmospheric pressure cannot be used to determine its capacity at system pressure since the air will be compressed when the sprinkler system is pressurized. To take into effect the compression of air from atmospheric to system pressure, a 32 ½ gallon capacity reservoir is the minimum size which can be used to trap air without any other action on the system. That is acceptable to the VA and meets NFPA requirements.

(R4, tab 259)

In response, Mr. Hayes advised the CO, in his letter of August 9, 1996, that FSS could only find the tanks in two sizes. Since the smaller available tank was only 30 gallons, FSS would be installing the larger 60 gallon tank. (R4, tab 263)

As it was eventually amended, the Contractor's claim, for installing two 60 gallon tanks – one in each of the building's two antifreeze loops - consists of the following major elements: Inside labor, $1,232 (52.37 hours @ $23.53/ hour); Materials, $1,001; Engineering labor, $66. When fringe benefits and subsistence are added, the total comes to $2,839. Added to that figure, the allowable 10% overhead and 10% profit plus bond costs and FICA, workers compensation and general liability, bring the total of the claim to $3,690. (R4 Supp, tab 534)

Appellant presented no testimony to explain how the inside labor or material costs were calculated, nor did it produce material receipts or specific payroll reports or daily logs to pinpoint the manner in which the inside labor hours were expended. It was content to base its claim on the existing documentary record. (Tr. XI/109; R4 Supp., tab 534)

Testifying on behalf of the Government, the A/E representative estimated the cost of obtaining and installing one expansion tank and associated piping and fittings. He relied on his own knowledge as well as price quotes obtained by the COTR (for which no documentation was presented) for estimating the cost of a 50-gallon air compressor tank at $150, while conceding that a tank of 60 gallons may range as high as $200. He added $100 to account for the costs of a hanger assembly, for a total materials estimate of $250. The A/E estimated that it would take two men two hours to completely install and tie the tank into the existing system. This labor was calculated at an hourly rate of $30, for a total labor estimate of $120. Adding overhead and profit to the materials and labor total, his estimated price for a single tank came to $450. (Tr. IX/169-73)

At the hearing, Mr. Hayes testified that his calculations supporting the expanded pipe device relied on the data contained in the 1991 version of NFPA 13, and that any consideration of the effect of the difference between atmospheric and system pressure on the amount of antifreeze expansion was not developed until later versions of the code. He acknowledged that the pressure problem was later recognized as a factor to be considered, but stated that he had no way of knowing that at the time the VA rejected his proposal to install the expanded pipe device. In his words: "[I]t was found out that this is a problem later." He was of the opinion that it was the VA's obligation to provide such information to the Contractor. (Tr. III/157-58)

Mr. Van Overmeiren testified that the formula that FSS secured from the National Fire Sprinkler Association dealt only with the effect of temperature differentials on expansion of the liquid within the antifreeze loop. While the formula was correctly applied with respect to temperature, the formula and resultant calculations did not consider pressure differentials. FSS only applied the formula to the antifreeze solution at atmospheric pressure. This failed to account for the fact that the system would be normally pressurized at 150 psi, with possible pressure after heating in the range of 200 psi. When the pressurized antifreeze solution is heated, it will expand to a much greater volume than the 47 cubic inches resulting from the Contractor's calculations or the 62 cubic inch capacity of its proposed expanded pipe chamber. The ambient temperature of the antifreeze solution is 68 degrees Farenheit. The temperature at which the sprinkler heads would be expected to activate is 158 degrees Farenheit. When the system temperature approaches 158 degrees, the resulting pressure rises beyond the 200 psi design strength of the system and must be relieved in order to avoid "blowing apart" this sprinkler system. In relieving the pressure, the liquid is diverted into a chamber to avoid reintroduction back into

the domestic water supply. The A/E calculated the temperature and pressure variables, reaching the conclusion that it would require at least a 32 ½ gallon chamber/tank to contain the overflow at the extreme end of the temperature and pressure scale. Mr. Van Overmeiren gave the results of his calculations to the VA. There is no indication that the VA shared the A/E's calculations with FSS. When the A/E was asked why his firm had not made these calculations available to the Contractor prior to this dispute, he stated that until the Contractor submitted its design for the antifreeze loop, including size and arrangement of piping and the particular type of glycerin solution being used, it was not possible to make such calculations. It was his opinion that these calculations were the Contractor's responsibility. (Tr. III/161-76)

VABCA-5569: DISCUSSION & DECISION

The Jurisdictional Issue

The Government makes the argument that in this particular appeal, there is only one expansion tank that is at issue; that the other expansion tank installed on this project was a part of the claim designated as VABCA-5571; that since the Board dismissed that claim with prejudice as requested by Appellant, no costs for the other expansion tank may be recovered under VABCA-5569. The Board considers this position to equate to a Motion to Dismiss for Lack of Jurisdiction. It is settled law that a Contracting Officer's final decision is the "linchpin" of board jurisdiction. ***Paragon Energy Corp. v. United States***, 645 F.2d 966, 967 (Ct. Cl. 1981); ***AB Tech Construction, Inc.***, VABCA No. 1531, 82-2 BCA ¶ 15,897; ***Breiner Construction Company, Inc.***, VABCA No. 5461, 98-1 BCA ¶ 29,492. If the "second" expansion tank was not addressed by the Contracting Officer as a part of the claim that was denied, appealed and docketed as VABCA-5569, but was instead a part of the claim that ultimately became VABCA-5571

(subsequently dismissed by the Board with prejudice), the Government's position will prevail.

We have examined the original claim letter from FSS, presenting a total of twenty-five separate claims to the CO. The Contractor's claim #11 was titled "EXPANSION TANK," in the singular. However, the narrative description of the claim referred to the VA's letter of August 2, 1996 instruction that FSS install "expansion tanks," in the plural. The CO's letter of that date does in fact refer to the installation of tanks at two separate locations, and reveals that the issue of tanks *at both locations* had been an ongoing bone of contention between the parties. Attachment 11 to the Contractor's claim contained its cost calculations. They totaled $4,505, with overhead and profit added. In both the materials list and the labor hours, it is abundantly clear that FSS is claiming the costs of purchasing and installing two "60 gallon expansion tanks." (R4, tabs 291, 256)

In her final decision letter, the CO specifically addressed each of the numbered claims. With respect to Claim #11, she indicated that she understood that the Contractor was claiming the costs of installing "expansion tanks (devices)" (her words). The CO continued by discussing the need for expansion chambers in two locations within the building, and justifying the VA's position that FSS had not installed the correct devices. The CO then stated that the VA had issued (unilateral) Supplemental Agreement #13 for work in the basement area, but did not state whether that unilateral had actually contained the costs of an expansion tank. At the hearing, Government Counsel argued that the VA had compensated Appellant for the cost of an expansion tank in the directed change order issued as Supplemental Agreement #16, in effect positing that the Contractor had already been compensated for one of the tanks in connection with an additional antifreeze loop that the VA wanted installed at another location within the building. That other location is involved in the dispute

underlying VABCA-5571. The Government further argued that, having itself requested a dismissal of VABCA-5571 with prejudice, Appellant cannot now reargue any claim for the expansion tank that was supposedly a part of SA #16. (Gov. Br., pgs. 99-101; R4, tab 295)

In a letter to the CO dated December 21, 1995, the Contractor's project manager, Mr. Allen, had notified the CO that she had not included any price for the installation of the expansion tank in (unilateral) Supplemental Agreement #16, the VA's directed change in a separate location within the building. Mr. Allen requested issuance of a separate change order to compensate FSS for this portion of the work. There is no evidence that such a change order was ever issued by the VA. (R4, tab 222)

The CO referenced the VA's Supplemental Agreement #13 in addressing the Contractor's claim #11. An examination of the calculations that accompanied that document reveals only a lump sum figure of $7,050 for labor and materials, of which $1,000 was for unspecified materials. There is no mention of an expansion chamber or tank. (R4, tab 288)

The Board has examined the Contractor's Claim #13. In that claim, FSS demanded a total amount of $7,850. One part of the claim was that it was "not adequately compensated for the additional work demanded by the VA. This work included backflow preventers, antifreeze loops, and backflow preventer valving." In addition, the Contractor claimed that the backflow preventer in the area of the loading dock was "damaged by others." The cost calculations in Attachment #13 to this claim itemize the materials and the installation labor, but do not list either the cost or any labor associated with an "expansion tank" as had been identified in preceding Claim #11. The only materials listed were sprinklers, for a total cost of $1,386. The labor was for 111 hours totaling $2,228 –

before labor burden. The labor efforts were insufficiently descriptive to indicate that they included any costs of installing an expansion tank. (R4, tab 291)

In her final decision denying claim #13, the CO indicated it to be her understanding that the first part of the claim was only for the installation of additional (sprinkler) heads in the antifreeze loop. She characterized this dispute as one over the number of heads that actually were installed. She never once mentioned any dispute over an expansion tank. With respect to the other part of the claim, the CO stated that the backflow preventer had "malfunctioned" and that it was the Contractor's responsibility under the warranty clause to repair it at no additional cost to the Government. (R4, tab 295)

Finally, we examined Supplemental Agreement #16, as urged by Government Counsel. The document deals only with the number of sprinkler heads, not once mentioning an expansion tank. The CO issued the document directing FSS to install a total of 24 additional sprinkler heads, @ $118.31 per head for a total price of $2,839.44. (R4, tab 288)

There was a considerable amount of confusion at the time of the hearing, some of it caused by semantic differences (expansion chamber/expansion tank) and some by grammatical sloppiness (tank/tanks). There seems to be even more confusion over just what work was covered by which supplemental agreement. The Board, having reviewed the above documents, finds it now abundantly clear that the Appellant's claim for the cost of two expansion tanks, together with the labor to install them, was *always* a separate claim, as presented to the CO, as denied by the CO, and as docketed by this Board as VABCA-5569. Furthermore, there is no compelling evidence, other than unsupported assertions by Government Counsel, that Appellant was ever paid for either one of the expansion tanks that were eventually installed, under either of the supplemental agreements that have been examined and discussed *supra*. The dismissal of

VABCA-5571 has absolutely no bearing on the Appellant's right to assert the claim for both expansion tanks and the Board's jurisdiction to entertain the claim. The Government's motion to dismiss that portion of VABCA-5569 relating to the expansion tank under the directed change order is ***denied***.

On the Merits

When all is said and done, the *substantive* dispute involved in this appeal is simply whether or not the expansion chamber proposed by Appellant was of sufficient capacity to comply with the Contract and applicable state and federal regulations concerning storage of expanded antifreeze liquid at the temperature and pressure extremes under which this system was designed to operate. That being said, the Board is convinced that the Government was correct in rejecting the inadequate expanded pipe device proposed for installation in the two antifreeze loops within the building. The Appellant's president himself conceded that his calculations failed to account for the pressures within the system, but took the position that the VA should have given him more information at the time the dispute arose. While detailed communication between owner and builder is always desirable, we conclude that the VA gave Appellant an adequate explanation for rejecting its proposed overflow device in favor of a larger expansion tank. The CO informed FSS that its calculations failed to account for system pressurization, and that an expansion chamber of at least 32 ½ gallons would be necessary. That was, after all, the "bottom line."

While Appellant may not recover costs associated with the tank in the antifreeze loop required by the basic Contract, it is entitled to an equitable adjustment for installing the expansion tank in connection with antifreeze loop added by the directed change. As we have previously found, there is no indication in the record that FSS was ever paid for this work as a part of any of the VA's unilateral change orders.

The Appellant is entitled to the reasonable costs that it expended in complying with the VA's directed change. The Board has examined the limited quantum evidence presented by both parties. The Appellant has not met its burden of persuasion with respect to either the materials or labor costs claimed per tank. On the other hand, the A/E's estimate of $450 appears to be somewhat conservative. On a jury verdict basis, the Board awards the following costs in connection with the one expansion tank: materials, $350 + labor, $240 = $590, to which is added (per the Contract supplemental changes clause) 10% overhead ($59) and 10% profit ($65) for a total equitable adjustment of $714. We are not allowing the cost of any engineering time because one antifreeze loop and expansion tank was already called for by the Contract. The Appellant, as the designer of the antifreeze loop, was required to perform the engineering calculations to size the expansion chamber as a part the basic Contract. The appeal is ***sustained*** in the amount of $714.

VABCA-5570: FINDINGS OF FACT

Tamper Switches

In order to have a complete coordinated fire sprinkler/alarm system, there must be some device by which to determine that the various valves within that system are in their correct positions. A tamper switch is a supervisory device that electronically connects to an annunciator panel board, sending a signal that whatever valve the tamper switch has been "supervising" has been changed (whether opened or closed). Prior to this Contract, the existing system at the VA's hospital was lacking in any such supervisory device, relying instead on the use of chains and locks around control valves to preclude tampering. (Tr. III/83-84; R4, tab 299)

Specification Section 15500, FIRE PROTECTION, Part 1, GENERAL, at paragraph 1.1.G, indicates: "Expansion of the fire alarm system to incorporate

the newly installed sprinkler system alarm *and supervisory devices*." (Emphasis added)

In that same specification, under Part 2, PRODUCTS - VALVES, paragraph 2.2.G states: "Provide each listed indicating sprinkler, standpipe and fire pump control valve with adequate means for mounting an electrical supervisory switch. Switch is specified in Section 16721, FIRE ALARM LOCAL BUILDING SYSTEM."

This referenced Section, in Part 1 - GENERAL, at paragraph 1.1, DESCRIPTION, contains , *inter alia*, the following information.

> A. This section of the specifications includes the furnishing, installation, and connection of additional fire alarm and supervisory equipment to the existing fire detection and alarm system to form a complete coordinated system ready for operation. It shall include, but not be limited to, waterflow and supervisory alarm initiating devices, control panels, auxiliary control devices, expansion of existing annunciators, power supplies, conduit and wiring as *shown on the drawings and specified*. (Emphasis added)

Further along in this same section, paragraph 2.5.A - SPRINKLER AND STANDPIPE VALVE SUPERVISORY SWITCHES, contains detailed information concerning how these switches are to be used, installed and their performance and physical characteristics.

Finally, under Section 15500, Part 3 - EXECUTION, paragraph 3.1.A – INSTALLATION states: "Supervisory Switches: For each listed indicating sprinkler, standpipe and fire pump control valve, install a supervisory switch that is connected to the fire alarm system."

Contract Drawings FP-3 through FP-10 each contain General Sprinkler System Notes. On all eight drawings, Note FP2 requires that: "All existing *control valves that remain* are to have a new tamper switch installed, and chains and locks removed and turned over to owner." (Emphasis added)

In addition to these provisions, the Contract incorporates, by reference, the requirements of certain of the NFPA Fire Codes, including NFPA 13. Relevant to this appeal is Chapter 4 , Subsection 4-5.1.1.3:

> Valves on connections to water supplies, sectional control valves, and other valves in supply pipes to sprinklers *shall be supervised* by one of the following methods:
>
> * * * * * *
>
> (b) Local signaling service that will cause the sounding of an audible signal at a constantly attended point.
>
> * * * * * *

(R4, tabs 300, 359) (Emphasis added)

The VA's March 8, 1996 punch list identified the location of sixteen control valves that lacked tamper switches. With respect to each of the valves, the CO instructed FSS to provide the tamper switch and connect it to the fire alarm system. (R4, tab 231)

There were no symbols on the drawings showing tamper switches to be installed at any of these sixteen locations. Accordingly, FSS did not include any price for this work in its bid. Because paragraph 1.1A of Section 16721 referred to fire alarm system components "as shown on the drawings and specified," Mr. Hayes testified that the estimator had no duty to price any devices not shown on these drawings. (Tr. III/73-74, R4, tab 252)

The A/E representative, Mr. Van Overmeiren, testified that although all of the existing control valves were depicted on the drawings, no tamper switches were shown because it was the *Contractor's option* to reuse or replace existing control valves (wherever the drawing indicated that the associated piping could be revised or replaced). If FSS did not reuse a particular control valve, there would be no need to install such a switch. Only FSS could know which valves it

was going to reuse. That is why there was a General Note (FP-2) to alert the Contractor of the need to install tamper switches wherever the existing valves were being reused. (Tr. III/113-119; R4, tab 299)

The A/E explained that while a keynote relates to existing conditions and specific work to be done in specific areas identified on the drawings, a general note (such as FP-2) is a more generalized statement referring to general areas and work locations. An experienced fire protection installer would be expected, in Mr. Van Overmeiren's opinion, to understand this distinction. (Tr. III/106-108)

VABCA-5570: DISCUSSION & DECISION

If one examines only the specification and NFPA-13, there is no doubt that the Contractor is expected to install a complete coordinated fire protection system. There are step-by-step indications in Section 15500, from Part 1 - General through Part 2 - Products through Part 3 – Execution, that leave absolutely no doubt that when this Contract is completed, all control valves in this system must have supervisory switches. In that respect, the VA's specification is in conformance with NFPA-13.

Because the Contractor was entrusted with many of the design and layout responsibilities, some degree of independent judgement was essential. One of these judgements was whether to reuse some elements of the existing system or to replace them. This was the case with some of the control valves (together with associated piping), as indicated on the Contract drawings. We agree with the A/E that it would be misleading to indicate the need for tamper/supervisory switches wherever these existing control valves were shown on the drawings, because the Contractor may well decide not to reuse some or all of these valves. It was sufficiently clear to indicate by way of a general note that "[a]ll existing control valves that remain are to have a new tamper switch installed . . . ."

The Appellant is an experienced installer of fire protection systems. Even its corporate name speaks to this expertise. This is the standard to which we hold this Appellant – that of a reasonable contractor experienced in the industry. ***Hol-Gar Manufacturing Corp. v. United States***, 351 F2d 972 (Ct. Cl. 1965); ***Lamb Engineering & Construction Company***, EBCA No. C-9304172, 97-2 BCA ¶ 29,207 at 145,340 *citing* ***Roberson Construction Co.***, ASBCA No. 6248, 61-1 BCA ¶ 2857 at 14,915. Applying that standard, it was unreasonable to essentially read the specification and NFPA-13 out of the Contract simply because the locations of tamper switches that may or may not have to be installed were not depicted on the Contract drawings. As long as the control valves were shown, it was up to FSS to use its professional judgment in determining whether to reuse the valves. Only then would it be possible for any party to determine the precise locations and numbers of tamper switches to be installed. The appeal is ***denied.***

VABCA-5575: FINDINGS OF FACT

Relocate Fire Pump Test Header

Specification Section 15050 deals with "BASIC METHODS AND REQUIREMENTS (MECHANICAL)." Paragraph 3.01-C reads, in relevant part, as follows:

> Install gages, thermometers, valves and other devices with due regard for ease in reading or operating and maintaining said devices. . . . Servicing shall not require dismantling adjacent equipment or pipe work.

The test header involved in this claim is a device consisting of three 2-1/2" valves that extend from a sprinkler system riser through a pipe chase wall into the room. A threaded 2-1/2" pipe nipple connects each valve to the riser. In the middle of each valve is a stem with an attached round (red) handle for opening and closing that valve. At the end of each valve is a hose connection secured by

a threaded brass cap. The valves are installed perpendicular to the (vertical) wall. (R4, tab 364)

This test header is *not* designated for emergency use. Its sole purpose is to test the operation of the hospital system's fire pump. Under NFPA, the valves must be "exercised" annually. This consists of opening and closing each valve. During this process, the fire pump is tested by attaching hoses to the three valves and opening them one at a time, each to 250 gallons per minute (gpm), taking pressure readings at each nozzle until the operator can be satisfied that when all valves are open there will be a combined 750 gpm. Then the operator opens all three valves fully to determine whether the pump can deliver in the range of 150% of its rated capacity. After the testing, the valves are closed, the hoses disconnected and the caps screwed back onto the openings. Under normal conditions, this procedure need not be repeated for another year. (Tr. III/261-62)

As originally installed by FSS, the nipples connecting the three valves of the test header to the sprinkler piping riser were not long enough to allow sufficient clearance between handle and wall for a person with average size hands to freely turn the handles in a full 360° motion. Instead, one would have to grip the "outside" portion of the handle and essentially perform a series of half-turns in order to open or close the three valves. In the Government's view, this did not meet the specification's requirement that the device be installed "with due regard for ease in operating." (Tr. III/270)

According to COTR Atchley, at a distance of 1-3/4 inches from the wall, the valve handles can be turned approximately 180 degrees in one motion before releasing and re-gripping the handle. With the handles (as originally installed) within 1/8 inch of the wall, one could only turn 40 to 60 degrees before releasing and re-gripping the handle. This would involve between three and four times

the effort in opening and closing each of the three valves comprising the test header. (Tr. III/272-76)

Acting on the CO's direction, FSS installed a longer 2-1/2" nipple on each of the three valves, resulting in a clearance of approximately 1-3/4" between the outside surface of each handle and the wall. (R4, tab 364, Tr. III/263-64) The Government has accepted that clearance as meeting the specifications. The Contractor filed a claim for what it considered a constructive change to the Contract in the amount of $394.00.

VABCA-5575: DISCUSSION & DECISION

The Contractor contends that the initial valve-to-wall clearance was adequate for turning the valves. Even if the operator had to expend roughly twice the effort only once per year, Appellant asserts that this hardly runs afoul of the "due regard for ease in operating" standard established by the specification. In its view, the VA was unreasonable in refusing to accept the test header as originally installed.

The valves were installed too close to the wall for ease of operating, whether once a day or once a year. This installation failed to comply with acceptable standards of workmanship and ease of operation. The three nipples that connected the valves to the fire sprinkler plumbing risers were not long enough to allow an adult operator with normal size hands to easily turn the valve handles. The obvious solution was to replace the existing nipples with longer ones, which the Appellant did when the VA objected to the situation. The VA was within its contractual rights in insisting on easy operation of the valve handles no matter the frequency of operation. The appeal is ***denied***.

Additional Sprinkler Heads - Two-Piece Privacy Curtains

The Contract, at Specification 15500, paragraph 2.1.3A, requires design and installation in strict compliance with "the required and advisory provisions of NFPA 13." Paragraph 4-4.1.3.3 of NFPA 13 (also referred to as "the code"), is entitled "Suspended or Floor Mounted Vertical Obstructions." That paragraph specifies: "The distance from sprinklers to *privacy curtains*, free-standing partitions, room dividers, and similar obstructions in Light Hazard Occupancies shall be as shown in Table 4-4.1.3.3 and Figure 4-4.1.3.3." (Emphasis added). Together, the referenced Table and Figure establish a ratio of the minimum horizontal to vertical distances from sprinkler deflector to the top of the obstruction. If the obstruction is more than 30 inches horizontally from the deflector, then the top of the obstruction must be at least 18 inches below the deflector. As the horizontal distance decreases, the vertical clearance also decreases. This accounts for the spray pattern from the deflector. Thus, when the horizontal distance is 6 inches or less, the minimum vertical clearance is only 3 inches. (R4, tabs 300, 359; Exh. G-2)

Further along in NFPA 13, at Paragraph A-4-4.1.3.3, the following additional information is provided:

> The distances given in Table 4-4.1.3.3 were determined through tests in which privacy curtains with either a solid fabric or close mesh [1/4 in. (6.4 mm)] top panel were installed. For broader-mesh top panels, e.g., 1/2 in. (13 mm), the obstruction of the sprinkler spray is not likely to be severe and the authority having jurisdiction may not need to apply the requirements in 4-4.1.3.3.

Prior to letting this Contract, the hospital had privacy curtains in all the patient wards. These curtains had 18 inches of mesh at the tops. This mesh had openings of *less than 1/2 inch*. The VA made the decision to replace all of the existing privacy curtains in the patient bedrooms with curtains whose top 18

inches were made of mesh with sizes conforming to the 1/2 inch minimum openings required by the code. This was considered more cost-effective than having to install additional sprinkler heads in close proximity to the privacy curtains in all of the hospital's bedrooms. These curtains were to be purchased by the VA from another vendor. As a result, Specification Section 15500, paragraph 3.1.3C, was drafted to require the contractor to "Locate sprinklers *in patient bedrooms* assuming all privacy curtains have 1/2 inch openings in mesh extending 18 inches from ceiling." (Emphasis added) (Tr. II/212-13; R4 tab 300)

General Specification (GS) 1 of the IFB and subsequent Contract states that:

> Bidders are expected to visit the site and acquaint themselves with conditions as they actually exist. Failure to do so will in no way relieve the successful bidder, to whom the contract is awarded, of furnishing all materials and performing all work required for completion of the contract in conformity with the drawings and specifications. Appointments may be made with Chief, Engineering Service, 314-443-2511, X6300, to visit the site.

General Construction Note 1 on amended Drawing FP-1 states that:

> All information provided or otherwise represented by these drawings is approximate, for information only, *and must be verified by the design and build contractor*. (Emphasis added)

(R4, tab 300)

FSS did not send anyone to attend the scheduled pre-bid conference, and site walk-through. Mr. Hayes testified, however, that two FSS employees (Carl Fermin and John Allen) did make a pre-bid visit to the hospital, although the witness could not attest to the breadth or duration of their inspection, or whether they were accompanied by any VA engineering or contracting personnel. (R4, tab 2; Tr. I/56-57, Tr. II/12-13)

The VA's punch list of March 8, 1996 contained the following General Item #3, which read as follows:

> Common tub rooms located on the various patient floors have shower curtains around large shower/tub areas. When the shower curtains are pulled, sprinkler distribution behind the curtain is not provided. The sprinkler arrangement in the tub rooms should be corrected. The specific room numbers are noted by floor below.

Altogether, the punch list showed seven rooms - #626, #527, #545, #424, #442, #414 and #A-10. The specific instructions accompanying each room number read as follows: "Shower curtain blocks sprinkler distribution when pulled. Provide sprinkler protection behind curtain." (R4, tab 231)

The Contract drawings contain floor plans showing all of the numbered rooms mentioned on the punch list. On the 4th floor, tub room #442 shows the outline of a tub adjacent to a distinctive fixed shower partition. Tub rooms #414 and #424 have the same square shape and size with an identical shower partition but with no tub outline. On the 5th floor, the same conditions are depicted, with tub room #545 showing a tub symbol and tub room #527 showing only the shower partition. On the 6th floor, tub room #626 shows the partition and the tub. No floor plan shows tubs or showers in patient bedrooms. (R4, tab 299)

COTR Atchley testified that the offending obstruction was actually a privacy curtain running from the corner of the shower partition diagonally across the room. In affording privacy to a bather from anyone outside in the hall, the curtain, which lacked appropriate sized mesh in its upper portion, prevented a single sprinkler from projecting the code-required spray pattern to all areas of the room. This is what necessitated the installation of an additional sprinkler in each of the tub rooms. (Tr. III/206-209)

Mr. Hayes testified that one could not distinguish patient bedrooms from tub rooms on the Contract drawings. FSS (Mr. Hayes, his estimators, and designers) assumed that the bedroom and bathroom comprised a "common area." FSS also assumed that any privacy or shower curtain found in such

common areas would have 1/2-inch mesh at its top portion. While the witness admitted that the tub rooms were easily observed when his designers visited the hospital, he was of the opinion that if such obstructions as privacy or shower curtains were not shown on the Contract Drawings, FSS should be paid for installing additional sprinklers to comply with the code. (Tr. III/187-200)

The A/E testified that there are numerous ceiling obstructions in the VA hospital building that could have an impact on the number and placement of sprinklers. Among these are (general) lighting fixtures, nurse call lights, operating room lights, speakers, X-ray room fixtures, as well as other specialized structures attached to or suspended from the ceilings. Off the ceilings, there are soffits, shelving and cabinet systems that also might obstruct the sprinkler spray pattern required by the code. Mr. Van Overmeiren correctly observed that the Contract drawings do not show the level of detail to identify all of these potential obstructions. The A/E stressed the duty of FSS as the "design and build contractor," to take all of these obstructions into consideration in field-verifying the information in the specifications and drawings and then designing the correct code-compliant fire sprinkler system for the existing hospital. (Tr. III/215-19)

VABCA-5576: DISCUSSION & DECISION

It is beyond serious dispute that the existing privacy curtains in the hospital's tub rooms failed to comply with that portion of NFPA 13 requiring that the top panels consist of a "broader mesh" of at least 1/2 inch. This same situation existed in the hospital's patient bedrooms. However, Section 15500, paragraph 3.1.3C of the Contract Specifications only advised the bidders to assume that the privacy curtains had the broader 1/2 inch mesh top panels in connection with installation of sprinklers *in patient bedrooms*. There was no reasonable basis to assume that the VA would be replacing privacy curtains *in the tub rooms*.

The Appellant does not even contend that it had made such an assumption in preparing its bid. Instead, Appellant asserts that the Contract drawings fail to identify the tub rooms. We have found that while not all the tub rooms actually show the tubs in them, all of these rooms do show the shower partitions – a feature not shown on the plan views of existing patient bedrooms. Even in the rooms with shower stalls where the tubs are not actually shown, it is obvious that these are not patient bedrooms.

FSS would have the Board view the Contractor's role in this procurement as that of any other contractor that entered into a fixed-price contract with detailed specifications and drawings. This was not the case, however. The language of the IFB, together with the sparse detail of the drawings, made it clear that any successful bidder would assume substantial responsibility for designing and configuring an upgraded fire safety system for the VA hospital. This was subject of course, to technical constraints imposed by the Contract Specifications and drawings, together with any industry-wide codes incorporated by reference. Certainly, with particular respect to the placement of sprinklers, it was essential for the successful Contractor to avail itself of the opportunity to fully acquaint itself with the hospital's room layout, with particular attention to the presence of obstructions within these rooms that would factor into the number and placement of such sprinklers. ***Grinnell Fire Protection Systems Company***, VABCA Nos. 5672, 5859, 00-1 BCA ¶ 30,662. It is difficult to imagine how else a bidder could estimate the amount of piping and sprinklers that would be needed. While Appellant did not attend the VA's scheduled pre-bid tour of the hospital, it states that two of its employees independently visited the site. It is evident that these individuals failed to take the tub room curtains into account in estimating the number of sprinklers that would be needed to comply with the requirements of NFPA 13. The appeal is ***denied***.

VABCA-5579: FINDINGS OF FACT

Auxiliary Drains

In Specification Section 15500, under QUALITY ASSURANCE, paragraph 1.3.A reads, in relevant part, as follows:

> The design, materials, equipment, installation, inspection, and testing of the automatic sprinkler system and fire pump shall be in strict accordance with the required and advisory provisions of NFPA 13, 14, 20, 25, 231 and 231C. [Certain exceptions to the Code, are stated, none of which are relevant to this appeal.]

Further along in Section 15500, paragraph 3.1.C (Installation of) DRAINS, TEST PIPES AND ACCESSORIES, reads, in relevant part, as follows:

> 1. Provide a main drain at base of risers on valved sections, drain connections, and drains at other locations for flow testing of riser and complete drainage of system. Provide valve in drain lines and connect to the central drain riser. Discharge riser outside over splash block, indirectly over standpipe drain connected to storm sewer, or as indicated.

The VA's punch list of March 8, 1996 contained descriptions of eight locations where the VA noted the lack of proper drainage mechanisms at the low points of the system. For example, concerning Basement Room D-19, the VA stated: "Plugs are provided in low points in the Chiller Room. Drain valves and drain lines required per contract. Provide contract required drainage." As another example, regarding Basement Room D-22: "Drain valve and drain line missing from low point. Provide contract required drainage." (R4, tab 231)

As a result of the direction by the VA to correct this situation, FSS installed additional drainage from the plugs that it had already installed. It installed drain lines from low point plug locations by running such piping either to floor outlets or back to the main supply. FSS seeks an equitable adjustment of $42,142 as the cost of complying with the Government's directive. (Tr. II/69-70; R4, tab 242)

Both parties agree that the pertinent provisions of NFPA 13 dealing with system drains allow the installation of drain plugs (with no further connection to external drainage) at low points in valved sections of a drain riser system, where the capacity of the isolated trap system is between 5 and 50 gallons. Where the capacity exceeds 50 gallons, however, the code does require that a valve must be installed and connected by fixed piping to an accessible [drainage] location. (Tr. II/79-80, 96)

Mr. Hayes testified that the original installation complied not only with NFPA 13, but also with the Specification, and was consistent with the TYPICAL NEW RISER CONNECTION shown in detail on the Contract Fire Protection Drawings. He stated that the riser sections involved in this dispute are not the "valved sections" contemplated in the Specification language. The witness explained that *control valves* such as the "butterfly valve" shown on the TYPICAL NEW RISER CONNECTION detail were the only devices that qualified as "valved sections," because they were part of the [supply to the] sprinkler system. In his view, drain and testing shut-off valves were not control valves and hence not covered by the Specification language. He gave no further technical basis for this distinction. (Tr. II/65-68)

The A/E, Mr. Van Overmeiren, testified that the drains that are the focus of this dispute are mainly located in the building's basement and are for valved section auxiliary drains with capacities for 5 to 50 gallons of water. He explained that these are expressly covered by Section 15500, paragraph 3.1.C.1. The VA intended to exceed the NFPA 13 drainage requirement with respect to those "valved sections" of the drain risers as referenced in paragraph 3.1.C.1 of Specification Section 15500. This was so that it would not be necessary for VA personnel to empty up to 50 gallons of water using buckets (or temporary hoses) in order to drain any of these sections. The intention was to have these 5 to 50

gallon capacity, valved sections drained in the same manner as the NFPA code required for such sections with capacities exceeding 50 gallons. The designer did so by calling for "complete drainage of system," by requiring the contractor to "provide valve in drain lines and connect to the central drain riser. Discharge riser outside over splash block, indirectly over standpipe drain connected to storm sewer, or as indicated." (Tr. II/92-96)

VABCA 5579: DISCUSSION & DECISION

The Government correctly states that specifications in government contracts may exceed minimum industry codes and standards. ***Roxco, Ltd.***, ENGBCA No. 6453, 00-1 BCA ¶ 30,687. When such standards are restricted or exceeded, however, the Government must do so in a clear and unambiguous manner. ***Santa Fe, Inc.***, VABCA No. 1746, *et al*. 85-2 BCA ¶ 18,069 at 90,715, *citing* ***John McShain, Inc., v. United States***, 462 F.2d 489 (Ct. Cl. 1972); ***Biltwell Development Company***, AGBCA No. 86-324-1, *et al*., 91-2 BCA ¶ 23,804.

Both parties agree that the Appellant's original installation of the drains, with removable threaded plugs at the system low points, met the requirements of NFPA 13, the applicable industry code where the volume of water being drained was between 5 and 50 gallons. The issue is whether the specification language *clearly* imposed additional measures for system drainage.

We are persuaded by the credible testimony of the A/E that all of the areas involved in this dispute involved required valved sections at the base of these auxiliary drain risers. Paragraph 3.1.C.1 of Section 15500 unambiguously requires that drain lines have valves and that all such valved sections to risers be connected to the central drain risers and that these risers be discharged outside the immediate basement area, by one of several means. This is all that the VA required in its punch list. The Appellant's reliance on NFPA 13 is misplaced. The Government clearly drafted a Contract specification more stringent than the

relevant code provisions. It was entitled to demand strict compliance with this clear requirement of its specification. The appeal is ***denied***.

VABCA-5577: FINDINGS OF FACT

SA-6, 6th Floor Piping

Between the time of completion of the project (IFB) drawings and the award of the Contract, the VA modified parts of the Hospital's 6th floor. In order to account for these modifications, the CO, in a letter to FSS dated August 26, 1994, requested a change order proposal for the added work. The work was described as relocation, as necessary, of sprinkler piping and heads in all corridors on the 6th floor. The CO's letter included information concerning the necessity of relocating the west corridor main fire sprinkler line and any associated branch lines and sprinkler heads that interfered with the reconfigured ceiling grid, light fixtures, etc. In addition, the CO listed eleven other specific locations for relocation of sprinkler branch lines and sprinkler heads, giving their former designations. The letter concluded with a list of Contract and code requirements that would have to be met. (R4, tab 90)

The CO followed up with a letter of September 19, 1994, again requesting the Contractor's proposal and furnishing scaled floor plans but advising that FSS would have to "verify the dimensions and complete the design of installation and assure compliance with applicable codes, regulations, etc." The enclosures consisted of four partial plans of the 6th floor depicting new and old floor plans and identifying the areas affected by the proposed modification. (R4, tab 98)

In a letter of September 26, 1994, Mr. Hayes stated that FSS would begin "the work of verification and design after it receives confirmation in writing that it will be paid for the work performed prior to receipt of a modification whether the modification is issued[,] performed or not." Mr. Hayes stated that the VA

could incorporate such "pre-modification costs" in the change order or pay for them under a separate modification. (R4, tab 103)

Thereafter, the parties exchanged correspondence. The CO reminded the Contractor of its responsibility pursuant to the Changes clause of the Contract, to provide an itemized price proposal within 30 days of the Government's request. The CO advised that the cost of preparing the proposal was a part of the Contractor's overhead expense. She stated her intention to issue a (unilateral) settlement by determination directing FSS to perform the work. FSS responded that it had not included change order proposal preparation costs, engineering and design in its overhead when bidding on this Contract. The Contractor made it clear that it would not submit a proposal, but instead would bill the VA after-the-fact for time and materials. Stressing the design/build nature of this Contract, Mr. Hayes demanded a written promise by the CO that the VA would pay for the verification and design efforts necessary to prepare a change order price proposal. (R4, tabs 106, 110, 111, 114)

On November 21, 1994, CO White issued (unilateral) Supplemental Agreement #6 (SA #6). A copy on Standard Form 30, signed by the CO and with a signature block for the Contractor was sent to FSS. The Contractor did not sign the agreement. SA #6 was in the total amount of $5,324, with an additional 6 calendar days of performance time added to the Contract duration. The VA and its A/E calculated the cost based on the installation of 45 sprinkler heads at a composite unit price of $75. This figure supposedly included materials ($500) and labor ($2,875), including 8 hours of engineering time. In addition, the VA allowed per diem and lodging costs of $295 for the designer of the new layout. The rest of the costs were overhead (10%), profit (10%), and the usual items comprising the labor burden on $2,875. (R4, tabs 121, 288)

In a letter of January 3, 1995, FSS reacted to the issuance of SA #6 by adding the sum of $7,692 attributable to "extended performance costs" (EPC) plus profit on that sum and bond costs which, when added to the $5,324 calculated by the VA, totaled $13,922. There was no explanation of how these extended performance costs were calculated. At the hearing, Mr. Hayes testified that the extended performance costs mentioned in his letter of January 5, 1995 were to cover the company's home office and field office overhead costs for the 6 additional days of performance time added by SA #6. He did not offer any explanation of the Contractor's revised claim for $7,368. (R4, tab 137, Tr. III/234)

As it was eventually presented, the Contractor's claim consists of the following major elements: Inside labor, $3,572 (151.81 hours @ $23.53/hour); Materials, $313; Engineering labor, $66. When fringe benefits and "subsistence" are added, the total comes to $5,512. Added to that figure, the allowable 10% overhead and 10% profit plus bond costs and FICA, workers compensation and general liability, brings the total of the claim to $7,368. After a credit for the $5,324 allowed by the VA, the amount in dispute is $2,044. (R4 Supp., tab 534)

During a January 5, 1995 meeting in which several pending matters were discussed, Mr. Hayes told the CO and her COTR that he had not needed the services of a designer other than himself. There had been no need for any employees from the company's Louisiana office to travel to the job site to design the revised sprinkler layouts for the 6th floor. Upon hearing this, the CO expressed her consternation that she had included lodging and per diem costs in SA #6 to cover any such travel necessity. (R4, tab 136, Tr. III/231-32)

COTR Atchley testified that the Contractor never furnished any shop drawings detailing the revisions made to the 6th floor sprinkler layout. Neither did Mr. Atchley observe anyone performing what he considered to be design work in that area of the building. (Tr. III/238)

The Appellant presented no testimony to explain the particulars of the labor and material costs. It was content to base its claim on the existing documentary record. (Tr. XI/128; R4 Supp., tab 534)

The A/E representative testified that only 21 sprinkler heads were actually relocated and 2 new heads were installed in the revised sixth floor area, even though the VA had included the cost for relocating 45 sprinkler heads @ $75.00 per head in unilateral Supplemental Agreement #6. In his opinion, the increased cost per head actually compensated in the unilateral change order more than covered any additional costs to FSS, such as engineering efforts and any added fittings and piping. (Tr. XI/190-93; R4, tab 288)

VABCA-5577: DISCUSSION & DECISION

The Appellant has failed to carry its burden of persuasion that it is entitled to the $2,044 difference between the $5,324 paid by the VA in Supplemental Agreement #6 and the $7,368 in its amended claim. The Appellant claims the cost for engineering expenses of $66 and inside labor costs of $3,572 for 151.8 hours. This contrasts to the total labor allowance by the VA of $2,875. However, the un-rebutted testimony of the A/E, that less than half the sprinkler heads covered in the VA's pricing of the change order actually had to be reinstalled, leads us to conclude that the Appellant has been fairly compensated for its work under Supplemental Agreement #6. Instead of $75 per sprinkler head, the composite labor/material price paid by the Government was actually closer to $150 per sprinkler head. In the absence of any specific explanation as to how the 151.8 hours of inside labor effort relate to the work under this change order, the Government's figures and rationale supporting an ultimate unit price of approximately $150 per sprinkler head are equally persuasive. We agree with

the A/E's conclusion that this higher unit price fairly compensated Appellant for its efforts. For these reasons, the appeal is ***denied***.

VABCA-5566: FINDINGS OF FACT

Sa #13 Relocating Sprinklers/Morgue Area

In a letter of February 23, 1995, the CO asked FSS to submit a change order proposal to "redesign, relocate and reroute" parts of the sprinkler system at specified locations on all floors of the building. This was made necessary, according to the CO, because of construction that had occurred after FSS had submitted its original shop drawings to the VA. In addition, FSS was requested to perform similar tasks on the basement level in the corridor adjacent to the morgue area. The CO stated that this particular work was being requested due to the necessity of avoiding suspected asbestos containing material (ACM) in that area. Attached to the request were two drawings for each area to be revised, one showing the old floor plan and the other showing the new floor plan. As an example, one area that had originally shown three rooms had been reconstructed as four rooms. Because each room had to be individually sprinkled, this called for additional sprinkler installation. (R4, tab 155; Tr. II/25-26)

In a letter dated March 1, 1995, the Contractor's project manager objected to performing the requested work, stating that it would take three months. He asserted that since the Contract was then one month from the completion date, an additional two months would require keeping a labor force at the site for this work alone. For this reason, FSS declined to submit a price proposal for the work. (R4, tab 163)

On March 23, 1995 the CO issued (unilateral) change order, which she termed Supplemental Agreement #13 (SA #13), with the direction that FSS proceed with the work. A copy of Standard Form 30, signed by the CO and with a signature block for the Contractor was sent to FSS. The scope of work was

identical to that shown on the previously furnished area drawings. The Contractor did not sign the modification. SA #13 was in the total amount of $15,244.26. No time was added because of concurrent work connected with two other modifications (SA #10, SA #11). The COTR calculated the basic costs for labor and materials to be $8,050, based on a two-man crew working for twenty days. While $300 was allowed for hotel and *per diem* for designers, this was offset by the $300 allowed (but not justified) on the previous SA #6. Additional allowances were made for two installers' *per diem* ($1,040) and hotel ($2,000) for twenty days ($1,040). An additional $62.68 was added for rerouting pipe in front of Room D-132 (material at $20 + 2 hrs of labor @ $21.32). To the sum of these figures ($11,277.68) was added 10% overhead and 10% profit. Unemployment compensation of $470.75 (@ 6.2%), FICA of $580.84 (@ 7.65%), and Workmens compensation of $546.67 were then added to total $15,244.26. (R4, tab 288)

The COTR was not called to testify regarding how he determined the base figure of $8,050. This figure evidently includes costs for design as well as installation labor, but has no breakdown of the number of days or hours assigned to each task. There is a notation on the calculation sheet that all labor was estimated at $7,550, leaving only $500 to account for material costs. (R4, tab 288)

In the basement, in order to avoid disturbing ACM on the ductwork near the morgue, the VA decided to run the bulk main in the adjacent corridor. The VA agreed that the main could be run below the ceiling but must be concealed. A plastic product called "DecoShield" was approved to hide the pipes. Because both the piping and the DecoShield are installed very close to the wall, working on the specified steel pipe is labor intensive due to the difficulty of turning the threaded fittings and connections in such close quarters. Because of that difficulty, FSS originally proposed to utilize PVC (plastic) pipe in the morgue/corridor area. Since PVC fittings simply snap together on pipe ends,

there is no need to use tools in close quarters. Another advantage is that the PVC pipe attaches to DecoShield, eliminating the need for independent hangers. After the VA rejected PVC as non-compliant, the Contractor installed the specified steel pipe and hangers. (Tr. II/57-61)

By the time that work required by SA #13 was being designed and performed, FSS had installed the *originally* designed sprinklers and piping in every area but the basement corridor adjacent to the morgue. (Tr. IX/82)

Prior to performing the work under SA #13, the Contractor failed to submit a cost proposal. In its claim letter of December 18, 1997, FSS sought a total of $142,576 plus 70 days of extended performance time. Attached to the claim as "Attachment 8" was the computation of the various cost elements of the claim. In the computer printout dated November 26, 1996, the *estimate* for "Inside Labor" was 1,826 hours, while that for "Engineering Labor" was 476.74 hours. In another printout dated June 23, 1995, the *estimate* for "Inside Labor" was 340 hours, while for "Engineering Labor" it was 200 hours. (R4, tab 291)

Prior to the hearing, the Contractor amended its claim to a total amount of $116,959.40, minus the $15,244 allowed in SA #13, for a *net* claim of $101,715.40. This time, the claim was broken down into two portions. The first dealt with all of the sprinkler work except that done in the basement corridor/morgue area. The second dealt only with the latter. For the first through fifth floor work, there was a total of 1,826 hours for "Inside Labor" @ $23.53, and 160 hours for "Engineering Labor" @ $16.43. For the basement corridor and morgue area, the "Inside Labor" totaled 476.74 hours @ $23.53, while "Engineering Labor" was 94 hours @ $16.43. Other than general statements by Mr. Bratlie, the Comptroller, regarding these hourly totals being taken from company records, there was no explanation provided by Appellant concerning how and when these hours were expended in working on SA #13. The accountant, Ms. Hadley, did explain that

company employees had stated that all "Inside Labor" costs consisted only of installation labor and that any labor associated with fabrication was included in the FSS material costs. Ms. Hadley did not conduct an audit of this claim and had no independent understanding of how the labor hours were compiled. (R4 Supp., tabs 534, 535; Tr. IX/236-37; Tr. X/120-22)

For this claim, the DCAA auditor, Mr. Winburn, accepted the Contractor's material costs (totaling $8,950) based on his review of FSS purchase orders. He also accepted the following as supported costs: union benefits @ $6.16 per hour; subsistence at 13.67% of labor; Unemployment and Medicare at 3.79% of labor. He further stated that he accepted 50% of the Contractor's labor hours. He based this acceptance on discussions with other contractors. He did not, however, provide these contractors with the plans for the work that was done under SA #13. (Tr. XII/117-120; R4, tabs 336, 337)

The A/E, Mr. Van Overmeiren, independently estimated the cost of performing the work required by SA #13. To do this, he secured a copy of the original shop drawings for each area and compared them to (changed) work that had been done in each of the separate areas. He was quite familiar with this particular work. He divided the areas by major work elements, arriving at 21 areas. He determined that no sprinklers had been added (and no work had essentially been done) in 5 of the 21 areas, other than minimal field survey to determine the need for additional sprinklers. It was not that FSS had failed to do required work – the reconfigured walls were such that additional sprinklers simply were not required. For the remaining 16 areas, the A/E described the work done: "[I]n most locations it was an issue of relocating a sprinkler. In some locations, adding a few sprinklers, and in some [very limited locations], only a small few actually required bulk main changes. It was actually just changing a branch line here or there and repositioning the sprinklers." (Tr. IX/82-89)

The A/E estimated the design effort for these changes to be 76 hours of field survey and 40 hours in the office to revise drawings and perform hydraulic calculations on the reconfigured piping. This came to a total of 116 engineering labor hours at an hourly rate of $20. With respect to installation effort, Mr. Van Overmeiren estimated that a total of 78 hours (@ $30) would be required to actually install the modified sprinklers and piping in the 16 areas that he inspected. He testified that there was "a very limited quantity" (approximately 12 feet) of DecoShield actually installed in the morgue area. Altogether, he estimated the material costs at $4,400. To summarize, the major cost elements were as follows: material, $4,400; design labor, $2,320; installation labor, $2,340; miscellaneous costs of transportation, per diem, etc., $2,250; overhead and profit, $1,985. His total estimate was $13,335. (Tr. IX/88-95, R4, tab 288, Exh. G-9)

Mr. Hayes testified that the A/E had oversimplified the tasks involved in performing this changed work. After hearing Mr. Van Overmeiren testify, he had himself reviewed the sketches relating to that work. As a result, Mr. Hayes made several contrasts between the costs claimed by FSS and those estimated by the A/E: Under the A/E's version, the price per floor is $2,540 while the FSS price is $19,500 per floor; Under the A/E's version, the price per area (of 20) is $762, while the Contractor's is $5,850; The A/E's price per room (of 66) is $230, while the FSS price is $1,772; The A/E's price per zone (of 14) is $1,088, while FSS charges $8,350; The price per square foot (of 12,085) by the A/E is $1.26, while the FSS price is $9.67. The witness did not explain the significance of each of these ratios, instead stressing the wide differences between the estimates of each party. (Tr. XI/74-76)

Mr. Hayes utilized the sketches of the modified areas to explain the tasks involved in doing the changed work, such as demolition, removal and reinstallation of ceilings, draining of lines, removal of piping and fabricating and

reinstalling piping, ending with testing. He did not, however, quantify these separate tasks or explain where the greater and lesser amounts of work were done; nor did he attempt to locate references to this work in the Daily Logs. (Tr. XI/76-80; App. Supp R4, tab 534)

There is no indication in the record, nor could Mr. Hayes find any, that the Contractor had, as a part of this its price proposal, credited the VA for costs saved with respect to original Contract work that was not required to be performed in the morgue and corridor area of the basement. However, in a letter dated June 15, 1995, Mr. Allen advised the CO that it would offer a credit of $992.25 for that portion of the morgue area work that was being redesigned. This was said to be based on the bulk of morgue work (76.4% unaffected by SA #13) having been done, with the remaining 13.6 % to be redesigned under SA #13 not yet done. This "credit" thus was 13.6% of the Contractor's total price of $7,296 for 100% of the morgue work. (Tr. XI/96-99; R4, tab 191)

Our review of the Daily Logs prepared by the Contractor reveals that seldom was there more than one individual actually recorded to be involved in the survey/design phase. The numbers of hours worked are not recorded on the Logs. The Logs recording installation work likewise seldom indicate more than one workman, other than the Contractor's job superintendent, involved in this particular work. When asked to comment on the size of the work crew, Mr. Hayes could not say whether SA #13 work had been done by one or two individual workers. The Board will therefore count only the non-superintendent workers actually recorded on the Logs. (R4, tab 290; Tr. XI/87; App. Supp R4, tab 534, Attach. "A")

According to the Logs, all or parts of 12 days were consumed by at least one individual doing the engineering survey. We find 90 hours for field survey and 50 hours for office drafting, etc. (not shown in Logs). In addition, the Logs

show 27 days of installation, between June 15, 1995 and November 15, 1995. Of those 27 days, 8 showed work being done in the morgue area. There is usually only one individual shown to be actually working on areas covered by SA #13. On 2 of these days the Logs show a split with other work, and only ½ day for the areas involved in SA #13. On 3 days, 2 workers, other than the Superintendent, are recorded. The total SA #13 installation effort for all areas, including basement corridor/morgue work (assuming an 8 hour workday), comes to 232 hours. (R4, tab 290)

Bid documents provided by FSS at the outset of the project, and during discovery for this litigation, show an estimate of $230,440 for total Inside Labor costs. The bid estimate based this total on 11,615 labor hours from the Contractor's labor take-offs. (R4, tab 10, Exh. G-8)

VABCA-5566: DISCUSSION & DECISION

The Appellant has offered scant documentation and no first-hand testimony with respect to the actual number of hours that it expended in performing the work under SA #13. Over several iterations of this claim spanning several years, the time representing survey/design effort for the upper floors and the basement morgue areas remained at 254 hours (160 + 94). So too did the 2,303 hours claimed for installation labor. These labor hours were based on estimates, according to Appellant. While prospective costs must of necessity be based on estimates, there is no justification for continuing to use estimates after the work has been completed. At the time this unilateral change order was issued, FSS had finished most of its sprinkler installation except for other changed work to be done in the kitchen area. The Contractor nevertheless failed to keep accurate records of the hours being expended on this change order, and to present them to the Board in some understandable format. Instead, we are left

with only the opinions of the parties and the Daily Logs, to determine for ourselves the reasonable amount of effort required to implement SA #13.

Simply contrasting the 11,615 installation hours in Appellant's bid with the 2,303 installation hours sought in this claim indicates that these claimed hours are inflated beyond reason. They equal 20% of the total amount of installation hours bid for the entire project, while the installation work on this change order was only reflected on the Daily Logs covering 27 workdays (36 cal. days), most of them with only one workman actually doing SA #13 work.

With respect to the decision of the Government auditor to accept 50% of the claimed labor hours, the Board considers 1,151 installation hours to be equally unsupported by the record before us. We have no way of knowing what the other contractors who gave their opinions to Mr. Winburn were told concerning the scope of these changes. Nor were they provided the plans for the work that was done. Board proceedings are *de novo*. As such, the Board is not bound by any concessions made by any Government official, including its auditor.

While the COTR did not testify with regard to how he estimated the number of labor hours and material costs in the VA's unilateral change order, the A/E offered a plausible explanation of how he approached the preparation of his estimate for the cost of the work. On the other hand, the A/E's explanation of how he computed the number of installation labor hours was lacking in specifics. The Appellant's president also spoke only in generalities, comparing the FSS estimate to the A/E's without really explaining why his firm's estimates were more supportable. Appellant's cost-per-room, per-zone, and per-area approaches fail to account for instances where no sprinklers (or few) were added, or where only small diameter branch lines were installed. Likewise, the cost-per-floor approach ignores the fact that some floors had far less change work shown

than others. Finally, the cost-per square foot approach was not adequately explained so that we could correlate it to labor hours spent installing linear runs of piping and sprinklers. To summarize, none of these comparisons, without more explication, are helpful to the Board.

Mr. Hayes did explain the tasks involved in doing the changed work, such as demolition, removal and reinstallation of ceilings, draining of lines, removal of piping and fabricating and reinstalling piping, ending with testing. While the original ceilings may have been demolished, the changed work would have required only that ceiling tiles be removed and replaced, hardly a labor-intensive undertaking. The record already indicates that all fabrication labor was included in the materials cost. In the morgue area of the basement, no original installation work had been done when the CO ordered the changed work. Notwithstanding that fact, while Appellant seeks 477 hours of installation labor costs as part of its overall claim for $26,080.91, it offers no credit for the value of the work originally intended to be done in this area. When questioned on this point, Mr. Hayes could offer no justification for that failure.

To summarize: although we are not particularly enlightened by the Government's somewhat conservative estimates, we are no more inclined to accept the unconvincing estimates presented by the Appellant. Here, however, there is enough evidence in the record to form a reasonable basis for a jury verdict, and we will take that approach. ***Fanning, Phillips & Molnar***, VABCA No. 3856R, 96-2 BCA ¶ 28,427, *citing* ***Specialty Assembly & Packing Co., Inc. v United States***, 355 F.2d 554, 572 (Ct. Cl. 1966).

The Government auditor accepted the material costs as proven and we will thus award $8,950, with the understanding that this includes the cost of fabrication labor. As we have found, the Logs and testimony support 140 labor hours of engineering survey and design, as well as 232 labor hours of actual

installation. We will utilize these three basic figures to compute the equitable adjustment due Appellant for all areas covered by SA #13.

Since the basement morgue area was redesigned before any pipe and sprinkler installation had been done, the Government is entitled to a credit. The Daily Logs show that on 8 of the 27 workdays showing SA #13 work being done, the area involved was in the basement corridor/morgue. Since 8/27 equates to 30%, we will add the contractual 10% overhead and 10% profit to the fully burdened inside labor costs of $7,841.21 ($7,841.21 + $784.12 = $8,625.33 + $862.53 = $9,487 x .30 = $2,954). We attribute 80% of this labor cost to installing the original design for running piping and sprinklers to service this area. The remaining 20% we will allow for additional sprinkler installation, pipe runs and installing a minimal run of DecoShield for SA #13 ($2,954.00 x 80% = $2,363.20). Because much of the pipe and sprinklers were originally required, we will allow a materials/fabrication credit of $1,200. The sum of these two items, $3,563, will be subtracted from the total cost of installation. No credit will be allowed the VA with respect to engineering costs, since Appellant was required to redesign for the basement morgue area.

I.	Materials/Fabrication		$ 8,950.00
	Inside Labor	232 hrs. @ 23.53/hr.	5,458.96
	Union Benefits	$6.16/hr.	1,429.12
	Subsistence	13.67% of labor	746.24
	Unemployment & Medicare	3.79% of labor	206.89
	Subtotal of Direct Installation Costs		$16,791.21
	Overhead @ 10%		1,679.12
	Subtotal		$18,470.33
	Profit @ 10%		1,847.03
	Subtotal		$20,317.36
	FICA; Work. Comp.; Liab. Ins.	17.52% of labor	956.41
	Subtotal		$21,273.77
	Bond	0.93% of Subtotaled costs	197.85
	Subtotal		$21,471.62

	Less Credit for Original Morgue Work	- 3,563.00
	Total Costs for Actual Installation	$17,908.62
II.	Engineering Labor 140 hrs. @ $16.43/hr.	$ 2,300.00
	Unemployment & Medicare 3.52% of labor	90.96
	Subtotal	$ 2,390.96
	Overhead @ 10%	239.10
	Subtotal	$ 2,630.06
	Profit @ 10%	263.01
	Subtotal	$ 2,893.07
	FICA; Work. Comp.; Liab. Ins. 6.7% of labor	154.10
	Subtotal	$ 3,047.17
	Bond 0.93% of Subtotaled Costs	28.34
	Total Costs for Engineering Survey/Design	$ 3,075.51
	Total Installation Cost	$17,908.62
	Total Engineering Cost	$ 3,075.51
	Total Equitable Adjustment	$20,984.00
	Minus Costs Allowed by SA #13	-15,244.00
	Net Amount Due Appellant	$ 5,740.00

To summarize, the appeal is ***sustained*** in the additional amount of $5,740.00. In all other respects, it is denied.

VABCA-5574: FINDINGS OF FACT

SA-17, Dietetic Kitchen Piping Change

In mid-October of 1994, FSS became concerned with the presence of ACM in the ducts above the ceiling in the dietetic kitchen. Despite several meetings where the VA assured the Contractor that the levels of asbestos in these above-ceiling areas were not unsafe, FSS still refused to install the sprinkler piping that it had previously designed for this area. (Tr. II/106-07, 120; R4, tabs 127, 136, 141, 186)

Finally, in a letter dated June 8, 1995, the CO informed FSS that it could install the dietetic kitchen sprinkler piping in a wall-mounted system below the existing ceiling, as she had been advised by the project A/E. The CO stated that

this system was to be concealed by prefabricated soffits. She directed the Contractor to redesign and install accordingly and to submit a proposal for the deletion of the planned above-ceiling installation and a change order proposal for the redesigned work. The Contractor was also directed to submit revised shop drawings and hydraulic calculations for this particular sprinkler zone as well as any adjacent areas affected by the change. She concluded by calling for manufacturer's literature on any system components not previously approved. (R4, tabs 186A; Tr. II/147-48)

In a letter dated June 23, 1995 the Contractor's project manager forwarded the cost breakdown for the kitchen area work. Mr. Allen began his letter by offering the VA a credit of $3,235.80. This was represented to be 26.9% of the value of all kitchen fire protection work ($12,019), the balance of $8,783.20 having already been completed. Attached to his letter were computer-generated estimates for the cost of lowering the piping from above the existing ceilings to run along the walls. Altogether, the total amount of direct costs claimed was $62,432. (R4, tab 191)

After further discussions and submissions, the VA approved the use of DecoShield, a plastic product, to act as a soffit to cover the exposed piping. Mr. Hayes testified that because both the piping and the DecoShield are installed very close to the wall, working on the specified steel pipe is labor intensive due to the difficulty of turning the threaded fittings and connections in such close quarters. (Tr. II/57-61)

On September 26, 1995 the CO issued (unilateral) Supplemental Agreement #17 (SA #17), with the direction that FSS proceed with the work. The Contractor did not sign the change order. The scope of work was the same as described by the CO in her June 8, 1995 letter to FSS: to install the steel sprinklers and their piping below the ceiling of the kitchen and to conceal the

piping by use of the approved DecoShield. The VA's price for this change order was $7,164.43. No additional time was given, but the CO stated at the end of the work description that: "Any time deemed appropriate would be calculated at the conclusion of the contract." (R4, tab 288)

The price for SA #17 was calculated as follows: Mr. Donald Birchler of FP&C, the VA's A/E firm, advised the COTR on September 19, 1995, that the material cost for steel sprinkler pipe was then $11.50 per foot and that the installation labor would be $10.50 per foot, for a total steel pipe price for installing 384 linear feet at $8,448. The A/E (or the COTR) with reference to the labor price of $4,032, noted that: "Of this cost $2,750 labor is already in their bid to install pipe." Using this information, the COTR subtracted the $2,750 from the A/E's labor costs of $4,032 and added the remainder of $1,282 to the pipe material cost of $4,416 for a total of $5,698. Adding 10% overhead and 10% profit, the VA arrived at its price of $7,164.43. This price did not account for the cost of the material and installation costs of the approved DecoShield. Neither did it account for any engineering expenses connected with the changed work. The Government offered no explanation other than the documentation that accompanied SA #17. (R4, tab 288)

The Contractor's Amended Complaint of March, 2000 seeks material costs of $6,989, as well as costs for 853.64 hours of inside labor, and costs for 94 engineering hours. These are unchanged from its original claim. Altogether, the total price for the work is $50,314.73. After crediting the VA with $3,235 for originally planned work and $7,164 allowed by SA #17, the net amount of this claim is $39,915.73 (R4 Supp, tab 534 - claim #16)

The A/E's Mr. Van Overmeiren independently estimated the cost of performing the work required by SA #17. He testified that the dietetics kitchen is in the shape of an "L," but that the change only required the installation of

DecoShield in the bottom section of the "L." He measured 384 feet of the installed product, but would allow 450 feet for the material actually purchased. At a price of $5.00 per linear foot, the price for the DecoShield would be $2,250. For the labor involved in installing the product, he allowed $2.00 per linear foot for 400 installed feet, a total of $800. (Exh. G-9, Tr. IX/119)

With respect to the installation of 2-inch steel sprinkler pipe, Mr. Van Overmeiren acknowledged that the material cost was largely a "throwback" because it was already fabricated at the time the VA issued SA #17. He thus would allow for 425 linear feet of sprinkler piping, which includes material to connect to the supply point. He estimated a price of $4.00 per foot, bringing the total cost of 2 inch steel pipe to $1,700. He would allow $10.00 for each of 30 sidewall sprinklers ($300) and $12.00 for each of 30 sidewall sprinkler tees ($360). (Exh. G-9, Tr. IX/122-23)

Mr. Van Overmeiren estimated a total of 16 hours for redesigning piping and performing hydraulic calculations for this changed portion of the kitchen sprinkler system. He stressed that the original installation designed for above the ceilings of this kitchen would have required removal and replacement of the metal pan ceiling, an involved process requiring that sections within the interlocking grid system be removed and replaced. He also stressed that the taller ladders needed to reach the area above the suspended ceiling (in order to attach hangers and install piping) would have made that installation cumbersome. He was of the opinion that the pipe installation costs were essentially a "wash." (Tr. IX/120-21)

Mr. Hayes testified that the dietetics kitchen has a number of offsets in it (walls and appliances), making for very close tolerances in running the sprinkler piping. He explained that a precise fit is also necessary "because the hangers are a pre-manufactured item and they fit the pipe without any tolerances for plus or

minus." Installing the necessary DecoShield fittings, clamps and end caps presented "a very complicated installation." Mr. Hayes could not recall the crew size for this change order work, but was of the opinion that FSS "wouldn't have a lot of people doing because it would be a slow job." (Tr. XI/123-27)

Our review of the Contractor's Daily Logs reveals that the survey for design of this changed work was done by one individual on two days. We find a total of 32 hours for engineering labor involved in this change (16 hours surveying and 16 hours in office designing and performing hydraulic calculations). The first day of installation work on SA #17 was recorded on Log #410, for October 18, 1995 – one worker for part of the day (4 hrs.). The last day that SA #17 work was recorded was on Log #434, for November 20, 1995 – one worker all day (8 hrs.). On some days, there was only one worker listed for kitchen area work on SA #17, while on other days two were listed. Altogether, there were 201 hours recorded between these dates, with 131 hours devoted to installing pipes and 70 hours installing DecoShield. (R4, tab 290)

VABCA-5574: DISCUSSION & DECISION

As was the case with VABCA-5566 (SA #16), the Appellant presented a claim with many more man-hours than were shown on its own Daily Logs. None of its witnesses attempted to actually tie the man-hours claimed to either payrolls or Daily Logs showing the actual work being performed on this change order. However, there is enough information in the Daily Logs, together with information in the Rule 4 files and the testimony of several witnesses, for the Board to fashion a jury verdict. ***Fanning, Phillips & Molnar***, VABCA No. 3856R, 96-2 BCA ¶ 28,427, *citing* ***Specialty Assembly & Packing Co., Inc. v United States***, 355 F.2d 554, 572 (Ct. Cl. 1966).

The Board will accept Mr. VanOvermeiren's estimates for the costs associated with purchasing and installing DecoShield. The 1995 estimate by the A/E of $11.50 per foot for 2 inch steel pipe will be used to calculate the cost of that material. While we agree that most of the previously fabricated pipe would have been unusable, there would have been some straight lengths of pipe, at least 20%, of which could be salvaged for the changed work. We will thus allow 80% of the A/E's 1995 estimate of the cost for steel pipe.

With respect to labor costs, the Board will look to the actual hours reflected in the Daily Logs rather than to the *estimates* presented by the parties. We conclude that most of the installation labor costs of the 2-inch sprinkler piping were offset by the cost of labor saved in above-ceiling installation. Even though the offsets and bends required to install the piping below the ceiling were time consuming, as was the close quarter wrench work in connecting pipes and fittings, a considerable amount of effort was saved by not having to remove and then reinstall the splined metal pan ceiling and work on taller ladders while installing hangers and pipes in the space above the ceiling. Of the 131 hours of pipe installation labor shown on the Daily Logs, we will allow 30 man-hours in connection with fabrication and installation. We consider the remaining 101 hours an offset against the pipe installation originally required for the dietetic kitchen area involved in SA #17. As the DecoShield installation was unique to this change order, we will allow recovery for the 70 man-hours recorded in the Logs. We will also allow the 16 hours of engineering labor on the Logs, with an equal number of hours allowed for design and hydraulic calculations.

425 ft. 2" Pipe @ $11.50 = $4,887.50 x 80%	$ 3,910.00
450 ft. DecoShield @ $5.00	2,250.00
30 Sidewall Sprinklers @ $10.00	300.00
30 Sidewall Sprinkler Tees @ $12.00	360.00
Subtotal Material Cost	$6,820.00

Pipe Fabricate/Install Labor	30 hrs.	
DecoShield Install Labor	70 hrs.	
	100 hrs. @ $23.53	$2,353.00
Union Benefits	$6.16/hr.	616.00
Subsistence	13.67% of labor	321.66
Unemployment & Medicare	3.79% of labor	89.18
Subtotal		$3,379.84
Engineering Labor	32 hrs. @ $16.43	525.76
Unemployment & Medicare	3.52% of labor	18.51
Subtotal		$ 544.27
Subtotal of Direct Costs		$10,744.11
Overhead @ 10%		1,074.41
Subtotal		$11,818.52
Profit @ 10%		1,181.85
Subtotal		$13,000.37
FICA, Workers Compensation		
17.52% of Site labor		412.25
6.70% of Eng'r. labor		35.23
Subtotal		$ 13,447.85
Bond 0.93% of Subtotaled costs		125.00
Total Equitable Adjustment		$ 13,572.85
Minus Costs Allowed by SA #17		-7,164.00
Net Amount Due Appellant		$ 6,409.00

To summarize, the appeal is ***sustained*** in the additional amount of $6,409.00 plus interest in accordance with the *Contract Disputes Act*. In all other respects, it is denied.

VABCA-5563: FINDINGS OF FACT

Asbestos: Loss Of Productivity

In 1992-93, the VA engaged the firm of Roth Environmental, to perform a complete assessment (the Assessment) of all asbestos containing materials (ACM) present within the hospital building at the Columbia, Missouri VAMC. The individual who actually performed the inspections and authored the reports

for Roth Environmental was John Harrington. The VA subsequently issued a solicitation seeking bids for abatement of the ACM within the building. The bids received exceeded the available funds, resulting in the VA's cancellation of the solicitation. (R4, tab 84; Tr. VI/17-19)

In issuing the solicitation that led to the *instant* Contract, the VA inserted the following General Requirement, paragraph 1.20 in Section 01010 of the Specification

> 1.20 ASBESTOS
>
> A. If, during construction, the contractor suspects the existence of asbestos, other than indicated on the drawings, he will be required to notify the Contracting Officer promptly, and before such conditions are disturbed of the possible presence of asbestos pursuant to the differing site conditions clause.

Other than the language of the clause above, there was no further mention of asbestos, either in the general information and notice to bidders, the drawings or the specifications included within the bid package furnished to all interested bidders. The multi-volume Asbestos Assessment was not mentioned in the solicitation, nor was FSS made aware of its existence prior to bidding. (R4, tabs 299, 300)

Within the solicitation, there was notification of a scheduled pre-bid Conference to be held on August 24, 1993 at 10:00 a.m., local time in Room C235C at the Columbia VAMC. The address was given, together with this invitation: "All bidders, subcontractors, manufacturers, and suppliers are invited to attend." (R4, tab 300)

Representatives from several firms attended the pre-bid conference. No representative from FSS was present. The VA contracting and engineering personnel then took those representatives present on a tour of the hospital building. The tour included visits to randomly selected areas in the hospital,

from the mechanical rooms in the penthouse, through patient bedroom areas and ancillary support areas, including the basement, the kitchen and research facility. Ladders were available and attendees were encouraged to use them to get a view above the ceiling areas. This took the better part of the day. After the walk-through, there was a final meeting during which the attendees were allowed to ask questions. It was during that period that the Safety Officer informed the attendees that there was asbestos in the building and that an Assessment had been done and was available for inspection in the Safety Office. (Tr. VI/111-14)

A memorandum was prepared by the A/E of the statements made during the pre-bid conference (R4, tab 81), which memorandum was *not* disseminated to other potential bidders in an amendment to the solicitation. Paragraph 4 of the memorandum reads as follows:

> No asbestos encapsulation or removal work is anticipated under this project. If the contractor discovers asbestos or other hazardous materials which will impact his work, he is required to stop work in the area and notify the VA project engineer of such conditions.

No amendment to the solicitation was issued advising those not present at the conference of any of the issues addressed, with particular reference to the Asbestos Assessment. Neither did the A/E's memorandum itself mention the existence of the Assessment. (R4, tab 2, tab 81, Attch. (C")

Two bids were received by the VA. FSS was the low bidder with a price of $1,558,562. The other bid was for $1,991,000. Mr. Hayes testified that FSS had put no money in its bid for working in close proximity to asbestos, because he had no reason to believe that asbestos would have any impact on his workforce. (R4, tab 3; Tr. V/5-14)

After award of the Contract to FSS, the parties attended a pre-construction conference on January 11, 1994. At that time, FSS representatives learned of the

existence of the Asbestos Assessment. The Assessment was on CAD software and also in hard copy. The (hard copy) floor plans showed the location of asbestos sampling that had been done, the type of substrate involved, and whether the ACM was thermal systems insulation, surfacing material or miscellaneous material. (R4, tab 9; Tr. VI/64)

In a letter dated June 3, 1994, Mr. Hayes of FSS alerted the CO to what the Contractor considered to be asbestos in three locations within the building: 1. 3rd Floor – Room D309 – Chapel – Above the entrance door.; 2. Room D132 – Cafeteria – Above the door; 3. 3rd Floor – Hallway entering Clinic No. 3. He stated that this situation had already been orally reported to the COTR, and that FSS had not expected to encounter asbestos since he had obtained a copy of the minutes of the pre-bid meeting wherein the A/E had stated that no asbestos encapsulation or removal work was anticipated on this project. Mr. Hayes concluded by advising that he was concerned that the presence of asbestos would delay his progress and FSS had stopped working in the three areas until the VA responded with its plan to remove "this hazard." (R4, tab 57)

After several discussions concerning the Contractor's complaints of asbestos contamination, the CO, by letter dated June 29, 1994, reminded FSS that the availability of the Asbestos Assessment had been mentioned to those present at the pre-bid conference [although no mention was made in the minutes]. She reminded FSS that the Assessment had also been mentioned during the pre-construction conference and that it remained available for the Contractor's inspection at VAMC Safety Office. In an attempt to reassure the Contractor, the CO made the following statements:

> We are aware that there is asbestos in the hospital, as has been identified during the asbestos assessment. You should be aware that routine background air monitoring is completed as part of the hospital asbestos operations and maintenance program and has

> shown no ambient fiber concentrations in excess of the OSHA permissible exposure levels or action levels. These sampling results are again, available for your review through the Safety Office. Regarding Mr. Knight's comments pertaining to the response action conducted by our Safety Officer to alleged asbestos containing material release, I have been advised that the actions taken were consistent with regulatory requirements for a small-scale, short duration fiber release episode, including the use of HEPA filtered vacuum. Both the Safety Officer, Mr. Henrickson, and the Industrial Hygienist are AHERA certified and are, therefore, qualified to determine the necessary precautionary and response actions to take for the health and safety of our patients, visitors, and staff.
>
> Please remember that the presence of asbestos is, in and of itself, not hazardous unless reduced to a fiber release state without the proper protective elements in place. If Mr. Knight discovers what he believes to be asbestos in a "damaged and friable state," he should consult Mr. Henrickson and rely on the asbestos assessment or sampling to determine the relative hazard.

The CO concluded her letter by suggesting that Mr. Knight exercise some discretion in reporting foreign substances as asbestos, in order to "limit project impact." She referred to one instance where the substance reported to the Safety Officer was "obviously concrete debris." The CO promised to work with FSS to resolve safety issues, but that "common sense and safe working practices will eliminate most of your concerns regarding asbestos." (R4, tab 59)

In a memorandum dated July 29, 1994, the COTR advised the CO that FSS personnel had encountered "possible asbestos containing material (ACM) " in the building's penthouse and had stopped working in that area. After having been advised by FSS Superintendent, Bobby Knight, of the location of the suspected asbestos, the COTR then accompanied Safety Officer Henrickson to the area. Henrickson returned to the area and contained what he considered to b possible asbestos on the joints of a 6-inch pipe in the south central section. At the two sites in the north central section, he determined the suspect material to be

paint flakes. With respect to other areas in the south central section, the Safety Officer found the existing ACM to be undamaged and recommended that no action be taken other than the exercise of care in seeing that it not be disturbed. After the asbestos on the pipe had been contained, air monitoring results showed that the concentration of airborn fibers was less than the permissible exposure level. COTR Atchley attached the test results to his memorandum with the request that the CO provide FSS with copies and direct the Contractor to resume work in the penthouse. (R4, tab 72)

As a part of the Asbestos Assessment, Roth Environmental/James Harrington would prepare individual "Survey(s) of Functional Areas." With respect to the sub-basement (also called the pipe basement), Harrington prepared four Surveys, performed on April 07, 1993 – one for each quadrant of the space. The Surveys reported the same conditions in all four quadrants. Under the heading of MATERIAL, was listed thermal insulation debris, located at Column R-5 in Northwest Quadrant and "throughout" in the other three quadrants. Three ACM samples in each of the four quadrants tested positive, with the description of the asbestos debris as "friable." Under the heading of CONDITION, the ACM was described as "SEVERELY damaged" (99%), DISTRIBUTED, with "debris located throughout dirt flooring." Under the DISTURBANCE heading, the potential was expressed as "high, with possible contamination by "contact" and via "airflow from ducts in sub-basement." Under the final heading of RESP. ACTION, the following recommendation was made: "Significantly damaged – Isolate area and restrict access. Remove, enclose or encapsulate as soon as possible." It further noted that as of the date of the Report (7/03/93), no ACM had been abated. (R4, tab 79)

In a letter dated August 5, 1994, Mr. Hayes related that VA safety personnel had agreed that the proper protocol for testing for presence of asbestos

contamination in the "under-floor pipe space [pipe basement]" is to put a worker in the area with a test kit on and a respirator and let him do his work. According to Mr. Hayes, FSS would do such a test on August 23, 1994. Should asbestos be found present at levels exceeding OSHA standards, the VA would be expected to abate the ACM . If the OSHA standards were not exceeded, the Contractor agreed to work in the pipe basement. (R4, tab 75)

In a letter of August 17, 1994, pertaining to the Assessment of the conditions in the pipe basement, Mr. Hayes asked for a meeting with all appropriate VA officials as well as the A/E and someone from Roth Environmental. He wanted to know if the information in the pipe basement survey was correct. If so, had it been abated since the date of the Assessment? The sub-basement is a critical area for the fire sprinkler system. The drains for all building zones are located there, as are the control valves. Mr. Hayes also sought information on sixteen other listed locations where FSS suspected the presence of asbestos. Mr. Hayes concluded by requesting a meeting. (R4, tabs 79, 91)

On August 18, 1994, Safety Officer Henrickson placed a telephone call to John Harrington, a former employee of Roth Environmental and the author of the pipe basement survey. His memorialized his conversation as follows:

> I called Mr. Harrington regarding the asbestos assessment he performed at the [HST] Memorial Veterans Hospital dated 7/12/93. My specific question was in relation to pages SB-9, SB-13, SB-23 and SB-30 of that assessment. I reviewed the pages with Mr. Harrington and asked him to explain the significance of the samples, in relation to the assessment he performed. He indicated that the pages in question represented the state of the debris only as a homogeneous area throughout the functional areas indicated. I asked Mr. Harrington if he intended for the debris samples indicated on those pages to reflect the dirt floor in the sub-basement as a homogeneous area in the functional areas indicated. He indicated that they did not. I stated to Mr. Harrington that my interpretation of the assessment was that the debris on the floor, in specific and defined

> locations, was to be regarded as asbestos containing material and that the dirt floor of the sub-basement itself was not represented as asbestos containing material in the context of the assessment reflected on those pages. He indicated that this was correct.

(R4, tab 80)

Mr. Hayes was present during a meeting at the jobsite concerning the Roth Assessment's description of the asbestos conditions in the pipe basement and its recommendation of restricted access until the asbestos conditions were abated. As a result of Mr. Knight's expressed concerns over working in that area, and the assurance by COTR Atchley and Safety Officer Henrickson that it was safe, they decided to place a phone call to Roth Environmental. The individual with whom Atchley and Henrickson spoke initially stuck to the literal language in his surveys of the pipe basement. When asked to describe the conversation that took place in his presence, Mr. Hayes testified as follows:

> A. . . . He first said 'no,' he stuck to his report. 'You're not going into that area. It has an asbestos hazard.' And then several times the VA personnel said 'they're just installing pipe down there. You know its okay. You've been out to look at it' – Some statements sort of like that; and after about fifteen minutes of that he finally agreed with them that his report was incorrect and that they could work in there.
>
> Q. Okay, and then what did that lead you to believe about the quality of Mr. Roth's report?
>
> A. The report was worthless.

(Tr. V/130-32)

A meeting concerning the situation in the pipe basement was held on September 1, 1994. At that time the parties agreed to certain procedures relative to working in the pipe basement. While the VA personnel emphasized that continuous ambient air monitoring showed all areas to be within the OSHA standards, the Contractor representatives remained skeptical. They requested

some written assurance of the true intent of the Roth Assessment dealing with the asbestos in the pipe basement. When FSS attempted to show the VA personnel photographs that it took in different areas where asbestos was suspected, the CO's only recorded reaction was to admonish the Contractor for taking the pictures without first obtaining permission and clearing it through the Public Affairs Officer at the hospital. All present agreed that some of the FSS workers would wear personal monitors while working to satisfy the Contractor's concerns that only when an area is occupied by workers are the sampling results going to accurately depict the presence of friable asbestos in the air. Mr. Knight was to contact the Safety Officer during the week of September 6th to arrange for the personal monitoring by FSS employees. (R4, tab 94)

Thereafter, the personal sampling was done in the pipe basement as well as in several other zones within the building. In a letter of October 7, 1994, the CO advised FSS as follows:

> Preliminary verbal results have been obtained from the personal and air sampling conducted on September 23, 1994, on the 4th floor. The area samples indicated no fiber concentrations above the allowable 0.1 f/cc. The personal samples, although readable, have significant debris loads and indicated concentrations above the 0.1 f/cc threshold. The samples have been forwarded for transmission electron microscopy (TEM) to further define the types of materials present. The results of this analysis will be forwarded to you as soon as they become available.

(R4, tab 108)

In a letter dated October 11, 1994, Mr. Hayes complained that the testing/monitoring in the pipe basement was not done until October 5, 1994 and that the results were still not forthcoming. He reminded the CO that FSS was still unable to work on the zone line drains in the pipe basement until it could see favorable test results. The CO responded by letter of October 14, 1994, restating the VA's position that it was safe to work in the pipe basement and that it was

the Contractor's conscious decision to avoid the area without further assurances. (R4, tabs 109, 111)

Further test results from personal sampling conducted on the 2nd and 4th floors on September 7th and 23rd, were received by the VA's Safety Officer on or about October 14, 1994 and transmitted by Memorandum to the CO. While two of four 2nd floor samples indicated asbestos fiber levels below the OSHA threshold, two other samples were too heavily loaded with debris to gain an accurate analysis. Ambient air tests were favorable, however. On the 4th floor, five of eight samples were readable and within the OSHA threshold. Three other samples were too heavily loaded with debris to analyze. Again, the ambient air sampling results were favorable. The Safety Officer advised the CO that notwithstanding the unreadable samples, it was his opinion and that of the VA's regional industrial hygienists that the conditions on these floors posed no threat to the safety of FSS workers. Mr. Henrickson promised to forward the monitoring results for the pipe basement and penthouse as soon as the written TEM results have been received. He concluded by apologizing for the delay in obtaining these monitoring results, stating: "In an effort to provide more timely information, I have felt it necessary to replace our current TEM laboratory vendor with another laboratory that has promised more reliable time-frames." (R4, tab 113)

During the first week of November, 1994, FSS received verbal notification that the test reports indicated that it was safe to work in the pipe basement. The actual sampling and test reports were furnished the CO by the Safety Officer on November 17, 1994. Again, although one sample from the pipe basement and two samples from the penthouse were too heavily loaded with debris to gain an accurate reading, the other personal samples and ambient air test results all indicated that any asbestos fibers were below the OSHA exposure level. The

Safety Officer expressed his professional judgment that there was no danger to FSS employees working in the pipe basement and the penthouse. There is no record that the Contractor made any further objections to working in either of these two areas. (R4, tab 119)

The Daily Logs report ten days when FSS stopped work in an area because of the suspected presence of asbestos. On June 23, 1994, FSS suspended work in Zone 34 until the VA addressed the presence of suspected asbestos. On July 11, 1994, the FSS Superintendent, having read the Assessment's dire warnings regarding conditions in the pipe basement, relocated his crew to the 5th floor, recording four man hours lost. On July 13, 1994, while installing pipe in Zones 27 and 30, FSS discovered suspected asbestos in Zone 30 and stopped working there. On July 30 and 31, 1994, while installing pipe in Zone 3-E, suspected asbestos was found above the ceilings and on both days work was stopped. On August 4, 1994, while installing pipe in Zone 25, work was stopped in three locations due to the presence of suspected asbestos. The Logs reflect a cleanup of the area and that work continued in Zone 25 the next day. On Friday, October 28, 1994, while installing pipe in Zones 3 and 5, suspected asbestos was reported in both zones and work was stopped. On Monday, October 31, 1994, no pipe installation was done. Mr. Knight notified the COTR of the problem. On February 6, 1995, FSS attempted to install pipe in Zone 3, the kitchen, and stopped four hours later "due to ACM." On February 11, 1995, while installing pipe and working on doors in Zone 6, FSS was advised by the COTR to stop working on the doors until the VA removed ACM. (R4, tab 290)

The Logs reflect that the Contractor reported suspected asbestos, but did not actually stop working on eight other days: 6/22/94, 6/30/94, 7/1/94, 7/8/94, 9/21/94, 9/29/94, 10/27/94, 2/13/95. (R4, tab 290)

Mr. Knight, the FSS Superintendent, was present at the job site on a daily basis. He testified that much of the ACM was not marked. His normal procedure when encountering suspected asbestos was to stop work and notify the COTR "and put it in the daily logs." Then he would relocate his workers to another area in which to work. As the person who filled out the Contractor's daily logs, he vouched for their accuracy with respect to the number of men working, conditions encountered and action taken. (Tr. VII/138-140; VII/152-53)

Mr. Knight testified that in some of the areas where his workers had to install piping, the condition of the ACM would vary: "Some of it was still intact and whole and no problem, but some of it had been busted up, laying on the ceiling, laying on the duct." He contended that the VA often took the position that the ACM was "in good enough shape that you could work right beside it." In some areas where he observed what to him looked like "busted up asbestos laying on the ceiling," he testified that the VA wanted him to work through such areas without any clean-up measures. (Tr. VII/141-42)

On cross-examination, Mr. Knight admitted that an experienced pipefitter should expect to sometimes have to work around ACM in a building constructed in the early 1970's, but insisted that his concerns on this project were not with secure ACM, but with possible friable asbestos, a factor noted in several areas of the Asbestos Assessment. Where the asbestos is friable (loose) on whatever particular device the ACM covers, the asbestos fibers can become airborne if disturbed. In that condition, the fibers are a hazard when breathed by the workers [assuming that concentrations exceed OSHA standards]. Mr. Knight particularly recalled the surveys of the basement areas and the first floor, where some of the ACM was described as friable with the recommendation to clean it up, and where other ACM was found to be in good shape and was to be left alone. He testified that often when he stopped work in a particular zone due to

suspected asbestos, his workers would move to other locations within that same zone. Mr. Knight was emphatic in stating that his workers maintained their efficiency on the few occasions when he was required to be absent from the immediate work area. (Tr. VII/143-54)

The witness testified that the Assessment was generally accurate. In some areas, the insulation had previously been removed from valves and not replaced. The asbestos in some of those areas was described in the Assessment as "friable." Mr. Knight admitted that upon being notified of asbestos, the VA would promptly investigate, isolating the area for clean-up. He was skeptical, however, where the VA would discount the possibility of friable asbestos and state that it was safe for the workers to continue. (Tr. VII/150, 160-61)

The Contractor's amended claim is in the amount of $143,941. FSS arrived at this amount by calculating a 30% productivity loss factor. It then applied this percentage to what it stated to be the total labor costs for workers (sprinkler pipe-fitters) affected by the presence of asbestos. When the labor cost of $473,470 is divided by 1.30, the resulting $109,262 represents the extra labor cost associated with the presence of ACM. After adding overhead, profit and bond costs, the total claim comes to $143,941. (R4 Supp., tab 534)

Mr. Hayes testified that he utilized the productivity (loss) factors devised by the Mechanical Contractor's Association of America (MCAA) to assist in calculating the impact of the presence or perceived presence of asbestos on the efficiency of the FSS pipefitters. Although there are sixteen factors, the witness focused on three of them as having what he considered to be a *severe* impact. Factor #2, Morale and Attitude, is described as "Excessive hazard, competition for overtime, over-inspection, multiple contract changes and rework, disruption of labor rhythm and scheduling and poor site conditions." In Mr. Hayes' opinion, several of these conditions applied to the situation in the building. He

assigned this factor the *severe* MCAA rating of 30% inefficiency. Factor #3, Reassignment of Manpower, is described as "Loss occurs with move on, move off men because of unexpected changes, excessive changes or demand made to expedite or reschedule completion of certain work phases, preparation not possible for orderly change." According to Mr. Hayes, the workers had to move from zone to zone which he considered to warrant a *severe* MCAA rating of 15% inefficiency. The third factor that the witness considered to warrant a *severe* rating, of 25% inefficiency, was Factor #6, Dilution of Supervision. According to the MCAA, this "Applies to both basic contract and proposed change. Supervision must be diverted to (a) analyze and plan change; (b) stop and re-plan affected work; (c) takeoff order and expedite material and equipment; (d) incorporate change into schedule; (e) instruct foreman and journeymen; (f) supervise work in progress; (g) revise punch list, testing and start-up requirements." Mr. Hayes stated that on many occasions the supervisor (Mr. Knight) had to leave the work area and visit with various VA personnel regarding the asbestos problems, creating a severe impact on the crew's efficiency in the superintendent's absence. (Tr. VI/79-88)

Mr. McLaughlin, Appellant's designated expert witness on loss of efficiency, prepared a report based largely on information contained in the Daily Logs. He had not been present at the job site, nor did he have any first-hand experience with this project. Mr. McLaughlin identified four generally disruptive effects of asbestos, or suspected asbestos, on a contractor's productivity. They are: 1. suspending the work; 2. demobilizing the suspect area; remobilizing the area (after asbestos remediated); 4. impact, that is, even in areas where asbestos is not present. He explained that after asbestos has become a concern to a contractor, he is often more cautious in planning his work and slower and more careful in working in every area. This impacts the Contractor's

rate of productivity. In his Report, he first examined all Daily Logs for the base contract pipe installation period from June 22, 1994 through the end of February, 1995. He then assigned one or more of the four disruptive effects to each incident reported in any particular Log. Although the Logs sometimes stated that there was a suspension or a demobilization, he would often assume these impacts even where there was no specific mention. He did this based on his years of experience as a project manager on many construction sites and his ability to estimate the impact of disruptions to work. (Tr. V/167-76)

For instance, on the Log for June 22, 1994, reporting "2 locations of ACM, Zone 4," he assigned two of the disruptive effects, each of two hours on a four-man crew for a total of eight hours multiplied by a fully burdened composite labor rate of $55.00. This came to $440.00 x 2 = $880.00. He considered the initial discovery cause for a *suspension* of two hours and also that there was another two-hour *impact* on the same crew. Mr. McLaughlin continued this process for every asbestos-related Log entry, arriving at a total direct impact cost of $22,220. For all other zones where there was no specific mention of asbestos on the Logs, McLaughlin went through each Daily Log and counted the number of workers (assuming a 10 hour day) working in each zone where asbestos was found or suspected. After subtracting out the direct hours already accounted for, he totaled the remaining hours and applied a 25% inefficiency factor for those hours. This total was multiplied by the composite labor rate of $55.00. The resulting total was $71,300. Finally, he computed the labor hours expended in zones where no asbestos was found or suspected and applied a 10% inefficiency factor (the "paranoia" factor). This came to $3,000. The total of the three categories of impact was $96,520. After adding overhead, profit and bond costs, the consultant's price for the overall impact and inefficiency caused by asbestos came to $111,321. Mr. McLaughlin observed that his price was close enough to

Appellant's own calculations (using the MCAA factors) to validate the FSS claim. (R4, Supp., tab 533; Tr. V/176-217)

The Board has examined the Daily Logs referenced in this consultant 's report. We find that many of the assumptions made by Mr. McLaughlin are not really based on entries in the Logs – which entries the Superintendent asserted to always accurately reflect conditions encountered and actions taken. For example, sometimes, when asbestos was suspected, the Contractor returned to the same zone on the next day, often only a room or two away. We find the assumed remobilizations and demobilizations to be far too speculative. We are likewise not persuaded that an inefficiency *impact* of 25% in any work in any zone where asbestos is suspected or present, is borne out by either the Logs, the payrolls or any other portions of the record in this appeal. (R4, tab 290)

Mr. Gymory was called by the Government to address the report prepared by Mr. McLaughlin. Although not himself an expert on loss of efficiency, the witness is an experienced engineer and contract administrator. He offered the following critique of *the facts assumed* in the consultant's report. The consultant assumed a certain number of work hours per day (10) and included the Superintendent in the labor calculations, although the Superintendent is carried as an indirect cost on this project. Mr. Gymory considers the certified payrolls submitted by the Contractor to be a much more accurate count of the hours worked by pipefitters during the base contract installation work that occurred during the period of June 20, 1994 to March 23, 1995. While Mr. McLaughlin's review of the Logs resulted in a total of 9,950 hours, Mr. Gymory's review of the payrolls resulted in his calculation of a total of 7,771 hours for that same period. He explained that Logs show the number of people working but fail to record the hours actually worked per person. Mr. Gymory also testified that the Contractor's statement of its total hours bid for pipefitters was 11,052

hours, as detailed in an FSS answer to a VA interrogatory (#9). This compares with the actual 7,771 hours reflected in the certified payrolls for base contract pipe installation. In Mr. Gymory's view, many of the assumptions of lost time and other impacts are either overstated or unsupported by the language in the Daily Logs. (Tr. VI/296-320; Exh. G-8; R4, tab 366, pgs. 13-22; Tr. VIII/173-76)

The COTR testified that he was on the job every day of the Contract period. He did not witness any difference in the speed and efficiency of the FSS workers from the beginning of the job through the end. (Tr. VI/280)

VABCA-5563: DISCUSSION & DECISION

With respect to the presence of ACM and its effect on the Contractor's workers, Appellant portrays the Government as having a cavalier attitude concerning the safety of the Contractor's employees as well as that of the VA employees and patients at the hospital. For its part, the Government saw the Contractor as overreacting to the mere presence of ACM regardless of its condition, with the ulterior motive of building a claim and pressuring the VA to issue change orders to FSS for abatement of asbestos. Based on the record before the Board, both party's positions are much too extreme. The Government took many responsible measures to guarantee the safety of the Contractor's workers as well as its own personnel and patients and staff of the hospital. As for the Contractor, while we find that its productivity was impacted by the presence of asbestos in certain work areas, we conclude that the impact was far less than claimed. We will discuss these conclusions.

Prior to awarding this Contract to FSS, the Government sought bids on a contract for abatement of asbestos at the hospital. Unfortunately, the bids exceeded the available funds and the project was canceled. It also had a consultant, Roth Environmental, prepare a multi-volume Asbestos Assessment of

the entire hospital building. That Assessment was available for inspection at the VAMC Safety Office. While prospective bidders who attended the (non-mandatory) pre-bid meeting and walkthrough were made aware of the Assessment, there was no mention of the Assessment in the solicitation itself. Neither was any amendment to the solicitation issued that alerted bidders not present at the pre-bid meeting to the information given by the VA and the issues discussed and questions answered. At the very least, all bidders, whether or not attending a pre-bid meeting, should have been made aware of the Asbestos Assessment, either in the solicitation or by an amendment thereto. Where significant information that could have a bearing on how a contractor will bid and perform a project is not included within the bidding documents, the contractor cannot be bound by the information contained in such excluded materials. ***Klefstad Engineering Co. & Blackhawk Heating & Plumbing Co, Inc.***, VACAB No. 602, 68-1 BCA ¶ 6965; *cited* in ***Jack L. Olsen, Inc.***, AGBCA No. 87-345-1, 93-2 BCA ¶ 25,767 at 128,217.

This was important information regarding the amount and condition of ACM that was present in the six-story building. Had this information been made available, all potential bidders, including FSS, could themselves have assessed the potential risk to their employees or the difficulty of installing pipe and sprinklers in certain confined areas in close proximity to ACM. Their bids could then be expected to reflect any potential impact on worker productivity. The Appellant was only made aware of the existence of this Assessment at the pre-construction conference – too late to have considered the information in the Assessment in estimating the labor hours necessary to install piping and sprinklers in close proximity to ACM throughout all floors of the building.

While the suspected friable asbestos in the overhead spaces sometimes turned out to be nothing more than plaster or gypsum or some other powdery

substance – often on the surface of the ceiling tiles, there were some instances where the substance was in fact determined by the VA Safety Specialist to be loose asbestos. In such instances, the responsible VA officials responded by isolating the area and removing the material in accordance with appropriate safety criteria. Then the area would be tested prior to releasing to FSS for further installation work.

The situation with the pipe basement was altogether different from these other experiences, however. There, all four quadrants of this large area with a dirt floor were described in the Asbestos Assessment as virtually saturated with friable asbestos. Its ACTION recommendation that the pipe basement be isolated with restricted access and that the VA "Remove, enclose or encapsulate as soon as possible," had not been followed prior to the award of this Contract. After interpreting the documents as meaning precisely what they said, and conveying their alarm and concern to the VA, both Mr. Hayes and Mr. Knight witnessed a telephone conversation during which the Roth consultant essentially retreated from his original severe assessment under prodding from the VA officials. During the conversation, Mr. Harrington softened his assessment of the condition of the asbestos in the pipe basement, agreeing with the COTR and Safety Officer that the asbestos was actually localized to several areas where discrete portions of insulation had fallen off and landed on the floor. As a result of this experience, the Contractor no longer had any confidence in the assurances of either the VA or its consultant.

The Board has itself examined the language of the Roth analyses of the pipe basement conditions and simply cannot reconcile the precise descriptions of those conditions ("SEVERELY damaged (99%);" " DISTRIBUTED;" "Friable debris located throughout dirt flooring") with the consultant's "revised" conclusions that the debris was actually located in several discrete piles instead

of throughout the dirt floor of every quadrant of the pipe basement. It is small wonder that the Contractor's concerns were magnified as a result of this experience.

During the meeting in early September of 1994, the parties agreed that the Contractor would equip its workers with personal sampling devices to record the amount, if any, of asbestos fibers actually in the air while the pipefitters were working in close proximity to the dirt floor of the basement. With a ceiling clearance of only 5 feet, the Contractor was understandably worried over exposure of its personnel while working in the basement area. Even when the results of the personal sampling were conveyed to FSS, with most of the samples showing that conditions were at a safe level, there were several samples that were too filled with debris to allow an accurate analysis. By this time, several months had passed with the Contractor working in other areas of the hospital while awaiting resolution of the situation in the pipe basement. The situation in the pipe basement could only intensify any concerns with possible asbestos in those other areas where installation was ongoing – particularly if the Roth Assessment might no longer mean what it said about other spaces in the building.

We agree with the VA that the loss of efficiency factors calculated by both Mr. Hayes and Mr. McLaughlin are largely unsupported by the express language reflecting labor efforts in the Daily Logs – language that Mr. Knight stood by as an accurate reflection of each day's events. For example, there is scant mention of the need to demobilize and remobilize. The actual stopping of work occurs only on nine days, usually followed by work in adjacent areas the next day. These impacts are difficult to measure in and of themselves. However, we do agree with Mr. McLaughlin that the frequent discovery of suspected asbestos, whether or not the material proves to be positive for fibers after testing, will

ultimately have some negative effect on workers productivity – something McLaughlin called the "paranoia factor." This is also treated by the MCAA efficiency factors, particularly Number 2, "Morale and Attitude." When the above-ceiling instances of suspected asbestos were combined with the situation in the pipe basement two months into pipe installation there was an impact on worker morale. The contrast between the severe evaluation of asbestos throughout the pipe basement and the dire warnings by the consultant, Mr. Harrington, and the attempted clarification by Mr. Henrickson, only made things worse, regardless of Mr. Henrickson's stated good intentions. Notwithstanding the constant sampling of the ambient air, the Contractor's workers were impacted by the conditions in the pipe basement and the attendant loss of confidence in the VA and its consultant.

General Requirement 1.20 of the Contract clearly states that if the Contractor suspects asbestos while performing its work, it is to "notify the Contracting Officer promptly, and before such conditions are disturbed, of the possible presence of asbestos pursuant to the differing site conditions clause." This is precisely what the Contractor did whenever asbestos was suspected. The fact that most times the suspect substance was other than asbestos does not alter the fact that such discoveries were disruptive in and of themselves. While the Contractor did not attend the scheduled pre-bid conference, there is no reason to believe that such visit would have revealed the extent of ACM that existed in this hospital building. The VA seeks to downplay the mere existence of ACM on pipes, ducts, valves, etc., so long as it was not damaged and loose. A multi-volume Assessment was prepared and the VA had previously attempted to let a contract for abatement of the hospital's ACM. There obviously was a substantial amount of ACM throughout the building, irrespective of its condition. Certainly, the condition in the pipe basement would amount to a differing site condition by

definition of the Contract clause itself. There was nothing on the Contract drawings to indicate the condition reflected in the Assessment. The phrase "other than indicated on the drawings," could reasonably lead one to believe that if the asbestos condition were not shown on the contract drawings, it would be considered a differing site condition. The ACM conditions experienced in this building represent a change in the working conditions that could not reasonably have been anticipated. As such, there was a constructive change to the Contract. ***Clark Construction Group, Inc.***, VABCA No. 5674, 00-1 BCA ¶ 30,870.

The Government argues that, because the Contractor actually expended less labor hours than it had estimated in its bid, it has not proven that it was in any way impacted by the presence of asbestos. This ignores the possibility that Appellant may have overestimated the amount of pipe and sprinkler installation effort needed and/or that it worked in an efficient manner. In either case, a contractor in a fixed-price contract is entitled to any labor cost savings that it may experience, just as it is out of luck if it underestimates the amount of effort involved in the contract work. Our Board has recognized that it is somewhere between impractical and impossible to maintain cost records identifying and separating inefficiency costs. For this reason, we have utilized the productivity factors from the MCAA Manual, published by the Mechanical Contractors Association of America, to estimate the extent of impact on labor productivity in the absence of better evidence, such as a "measured mile" analysis. This is appropriate where the record indicates a negative impact on the productivity of a contractor's workforce. ***Clark Construction***, *supra*., at 52,418-19, citing ***Fire Security Systems, Inc.***, VABCA No. 3086, 91-2 BCA ¶ 23,743.

The VA's witnesses testified that the FSS crews were working at the same pace throughout the period of pipe installation. Another witness emphasized that the Contractor had actually achieved greater labor efficiency than it had

estimated in its bid. The Government's position that there was no demonstrated inefficiency caused by the asbestos problems begs the question of whether, without the impact of the presence or suspected presence of friable asbestos on the workers, they could have been even more efficient. Since FSS reported suspected asbestos almost as soon as the pipe installation began, there is no "normal" work period by which to measure the impact, thus no useful "measured mile" analysis would be possible for this particular claim. This is why the industry has resorted to the use of productivity factors such as those in the MCAA Manual. While the Daily Logs record very little of the types of impact quantified in the MCAA factors (such as stacking of trades, suspension, etc.), one factor, "Morale and Attitude," seems particularly applicable to the situation that began with discovery of suspect material in the early stage of pipe installation and escalated with the Contractor's reaction to the Roth Analysis of asbestos hazards in the pipe basement. However, considering the amount of ambient air testing regularly performed by the VA, the uniformly favorable results, and the VA's prompt remediation of any areas where asbestos fibers exceeded the allowable limits, we consider the impact on "Morale and Attitude" to have been "minor" and will thus assign a factor of 5% by which to measure the overall impact on worker productivity throughout the course of pipe/sprinkler installation. This is, in our view, comparable to the "paranoia factor" (although of less severity) that was discussed by Appellant's expert, Mr. McLaughlin, in his expert testimony. With respect to the other two MCAA factors that Mr. Hayes considered applicable, we disagree. MCAA factor #3 relating to reassignment of manpower is simply not reflected to any substantial degree in the Daily Logs, which Mr. Knight (their author) considered to accurately record the significant events of each work day. With respect to MCAA factor #6, Dilution of Supervision, Mr. Knight, who was the

superintendent during the period in question, testified that his absences were infrequent. He was emphatic in stating that his workmen could be trusted to perform diligently during his absences.

We do not discount the Government's argument that prior to actually designing its pipe runs above the ceiling spaces, FSS had the Assessment available to utilize in order to avoid placing pipe in close proximity to structures containing ACM, most of which were marked to indicate ACM. That is a valid position. However, we are not basing Appellant's recovery on its discomfort in working close to ACM, but on the several instances of suspected and actual asbestos in the overhead areas and in the pipe basement, which served to increase the "fear factor" in its workers.

Quantum Calculations

In ***Clark Construction***, *supra* at 152,419, we applied the loss of efficiency factor against the estimated hours actually bid for the work in question. This is consistent with the guidance in the MCAA Manual. Because FSS estimated 11,052 pipefitter hours in its bid, we apply the inefficiency factor as follows: 11,052 x .05 = 553 hours. However, the 11,052 hours bid exceeds the actual hours expended for this base contract installation work by 30%: 11,052 – 7,771 = 3,281 ÷ 11,052 = .2968 (.30). In order to preclude a windfall to the Appellant, we will apply this overall achieved efficiency rate against the 553 hours: 553 x .30 = 165.9 (166). We then adjust the hours as follows: 553 – 166 = 387 hours. These are the net additional hours expended by Appellant on account of the asbestos-related problems encountered during performance of the Contract.

In addition to the composite labor rate and markups previously applied in calculating the equitable adjustments in VABCA-5566 and 5574, *supra*, the Board

will apply the percentages for overhead and profit set forth in the Contract's SUPPLEMENTAL CHANGES clause (VAAR 852.236-88 (a), JUN 1987.

Additional Labor Total: 387 hrs. @ $23.53		$9,106.00
Union Benefits	$6.16/hr.	2,384.00
Subsistence	13.67% of labor	1,245.00
Unemployment & Medicare	3.79% of labor	345.00
Subtotal		$13,080.00
Overhead @ 10%		1,308.00
Subtotal		$14,388.00
Profit @ 10%		1,439.00
Subtotal		$15,827.00
FICA, Workers Compensation		
	17.52% of Site labor	1,595.00
Subtotal		$17,422.00
Bond 0.93% of Subtotaled costs		162.00
Total Equitable Adjustment		$17,584.00

In accordance with the prior discussion, this appeal is ***sustained*** in the amount of $17,584.

VABCA-5583: FINDINGS OF FACT

Extended Performance Costs

The Appellant claims various costs associated with an alleged 188 calendar days of delay to its critical path activities that it asserts to have been caused solely by the actions or omissions of the Government.

The Changes clause of the Contract (FAR AUG 1987) addresses both directed change orders as well as constructive change orders. With respect to constructive change orders, the clause states: "any other written or oral order . . . from the Contracting Officer that causes a change shall be treated as a change under this clause . . ."

The Contract also included the FAR clause entitled Suspension of Work (APR 1984). Pertinent provisions are as follows:

* * * * * *

b. If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed or interrupted (1) by an act of the Contracting Officer in the administration of the contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay or interruption . . . However, no adjustment shall be made under this clause for any suspension, delay or interruption to the extent that performance would have been so suspended, delayed or interrupted by any other cause, including the fault or negligence of the Contractor . . . .

(Tr. XI/157-58)

The Appellant's Expert Testimony

The Appellant's scheduling consultant, Mr. McLaughlin, performed a Time Impact Analysis. He identified five time impacts on the performance of this Contract. Time Impact No. 1 was the *Late Start of Shop Drawings*, which he attributed to the dispute over the AutoCad drawings furnished by the Government. In his analysis, this caused FSS to begin its shop drawings 21 calendar days later than planned. Time Impact No. 2 was the *Late Finish of Approve Shop Drawings*, allegedly caused by the Government's insistence that the Contractor comply with the specifications calling for Schedule 10 piping instead of the non-compliant thin wall piping that the Contractor repeatedly submitted for approval. Notwithstanding that the Contract at Section 15500, paragraph 2.1A required "Schedule 10 [piping] per NFPA 13," and without any explanation for his conclusion, Appellant's expert characterized the 55 calendar days of delay as attributable to "defective specifications (i.e. Section 15500)." When the Government finally agreed to allow a deviation from the specifications in return for the Contractor's extended warranty on the substituted thin wall piping, the parties executed bilateral Supplemental Agreement (SA) #3. This operated as a

complete accord and satisfaction releasing both parties from any liability attributable to the piping change, including delay or suspension damages, up to the time of SA #3. Time Impact No. 3 was the Contractor's *Early Start of Fabricate and Deliver*, which recovered the 21 days previously lost over the delayed start of the shop drawings and thus offset that delay. Thus, taken together, the first three time impacts identified by Mr. McLaughlin are effectively neutral with respect to Appellant's entitlement to any extended performance time. (R4, tab 533, part III; Tr. VIII/264; Tr. VIII/75-78)

Time Impact No. 4, although given the label of *Late Finish of Install Off Hour Zones Sprinkler Piping*, actually relates entirely to pipe/sprinkler installation in Zone 3, the dietetic kitchen. Mr. McLaughlin attributes 300 calendar days of delay to the critical path to what he concludes was the Contractor's justified refusal to install piping above the kitchen ceiling "due to the presence of asbestos containing material." In testifying, he stated that this situation, together with the VA's issuance of Supplemental Agreement #17, amounted to a defective specification, thus rendering all time lost from the planned start of sprinkler installation until the completion of SA #17 (allowing piping installation below the kitchen ceiling) solely attributable to a Government-caused suspension. (R4, tab 533, Part III, Tr. VIII/295)

The FSS expert's Time Impact No 5 was designated *Early Finish of Punch List, Testing, Cleanup*. In his analysis, Mr. McLaughlin concluded that the Contractor had actually recovered 112 calendar days of the 300 days attributable to Time Impact No. 4, for a net 188 calendar days of compensable delay damages. He concluded that the VA achieved beneficial occupancy on November 20, 1995, although punch list work extended into 1996. In his view, "[t]he extended punch list duration is not relevant to entitlement determination for delay damages such as extended home office overhead." (R4, tab 533, Part III)

Mr. McLaughlin testified that, while other work was sporadically being done during the delay associated with the kitchen piping installation, all of these other activities had considerable float and did not control the critical path. Only if any of these other activities extended beyond the end of the kitchen-associated delay period, could they become critical to project completion. In his view, kitchen piping/sprinkler installation was the critical controlling activity from Spring through mid-November of 1995. (Tr. VII/231, 284-91)

Mr. McLaughlin's view that the Government was solely responsible for the kitchen sprinkler piping delays was based on the fact that "a change order was issued, and it is very clear that the design was changed, and it is very clear that the specification was not that of Fire Security." He did not indicate any in-depth understanding of the circumstances leading to the VA's decision to allow a change in the previously-approved design – which design was that of his own client, Fire Security. When asked if it was determined by the Board that FSS, and not the VA, had created the necessity for issuance of the kitchen piping design change, he admitted that the Contractor would be responsible for the 188 days of delay. (Tr. VIII/291, 289-90)

The Government's Expert Testimony

Mr. Gymory, the Government's scheduling expert, conducted an in-depth review of all of the Contract documents, including the Contractor's as-planned schedule, correspondence, certified payrolls and Daily Logs. Having done this, he prepared a fully documented as-built bar chart depicting the duration of every identifiable Contract activity from issuance of Notice to Proceed on December 27, 1993 through completion of the punch list work in late summer of 1996. (R4, tabs 366, 367)

This as-built bar chart shows seven separate activities extending beyond the Contract's extended completion date of May 12, 1995. Additional time had

been granted by the VA in connection with Supplemental Agreement #6 (+ 6 days) and Supplemental Agreement #11 (+ 45 days). After May 12, 1995, in addition to the work remaining to be done in the dietetics kitchen, the following base Contract work was depicted as follows: fire alarm installation (electronic) – not completed until November 18, 1995; signage - not completed until December 1, 1995, and; door and frame installation in rooms C05 and C05A – not completed until January 10, 1996. In addition, work on outstanding change orders continued as follows: SA #13, not completed until November 14, 1995; SA #15 - not completed until December 13, 1995; SA #12 – not completed until January 26, 1996; SA #16 – not completed until September 12, 1996. In Mr. Gymory's opinion all of these ongoing activities beyond the Contract's completion date were critical to project completion and thus were concurrent with any delays experienced in connection with dietetic kitchen work. (R4, tab 366, 367)

The Appellant's scheduling expert was critical of Mr. Gymory's position that all substantive work remaining to be done after the extended completion date had passed became critical and therefore concurrent. In Mr. McLaughlin's view: "Until the controlling delay is resolved, no other delay can have any other influence on the end of the project." (Tr. VIII/269-70)

In his analysis, Mr. Gymory initially conceded that the Government was responsible for forty calendar days of delay where the Daily Logs simply stated "No work on sprinklers due to ACM in remaining areas." These entries begin on May 2, 1995 and end on June 14, 1995, with the following notation: "Survey areas where piping is to be removed/replaced in Zones 1,2,4,5 & 7 with Mike Atchley & John S_ _ _ __. Possible ACM debris located in Rooms B-01Q, B-17, A-102 & A-54. Areas to be cleaned by VA prior to work. " However, during his testimony Mr. Gymory revised his position, observing that the period in question was concurrent with delays to several base Contract activities (as depicted on his

as-built progress chart) for which the Government was not responsible. Mr. Gymory concluded that Appellant is due no delay damages for that period, since the ACM would only have affected the sprinkler installation work – not the other activities that could have been worked on during the same period. (R4, tabs 366, 367, 290, Tr. VIII/179-81)

Mr. Gymory concluded that the Government was solely responsible for twelve days of delay, nine due to ACM problems and three due to VA-ordered work stoppage to accommodate hospital needs. He derived these days from the entries in the Daily Logs of June 27, July 11, 13, 30, 31, August 4, October 28, 31, November 22, 1994, January 31, February 6, 11, 1995. Altogether, the Logs show that 258 inside labor hours were lost on these dates. These twelve work days equate to sixteen calendar days of compensable suspension time. (R4, tabs 366, 290, Tr. VIII/181)

The Board has examined the twelve Log entries. On eight dates, even when pipe installation work was stopped, other substantive work, whether smoke taping or door installation work by the GC, or work by subcontractors, was not noted in the Logs as having been stopped. On the other three dates when only pipe installation work was being done, the Contractor has offered no reason why other Contract work could not have been performed. (R4, Tab 290)

Piping Installation in the Dietetic Kitchen

The installation of piping and sprinklers in Zone 3, the Dietetic Kitchen, was a part of the base Contract work. The Contractor's approved shop drawings called for installation in the area above the kitchen ceiling. However, in late October of 1994, FSS became concerned with the presence of ACM in the ducts above the ceiling in the dietetic kitchen. Despite several meetings where the VA assured the Contractor that the levels of asbestos in these above-ceiling areas

were not unsafe, FSS still refused to install the sprinkler piping that it had previously designed for this area. (Tr. II/106-07, 120)

In a letter dated December 19, 1994, the CO advised FSS that she had become aware that it had not resumed work in the dietetics kitchen area after walking out on October 28, 1994. She related that the area was identified in the [Asbestos Assessment] drawings as having thermal system insulation (TSI) ACM on some of the ducts. Basing the following advice on information given her by the VAMC Safety Officer, she stated that:

> There is sufficient maneuvering area available throughout above the ceiling which will prevent even accidental contact with the TSI by your staff working in that area. You have repeatedly been advised that it is safe to work throughout the hospital. There are [sic] no visible suspect ACM debris observed in those areas to be disturbed during piping installation in accordance with the drawings. No aspect of the work to be performed involves the intentional removal, encapsulation, handling, or disturbance of the TSI ACM present. Ambient air sampling of the area, both above and below the ceiling, continues to indicate no significant fiber presence. This is an area that your men have failed to complete and I am directing you to complete this area in accordance with the contract.

(R4, tabs 125, 127)

During a meeting between the VA and Contractor personnel that occurred on January 5, 1995, the parties discussed working in the dietetic kitchen. In response to Mr. Hayes' concerns regarding ACM on the ducts, Mr. Henrickson, the VAMC Safety Officer, told the Contractor that there were no exposure levels out of the ordinary in the kitchen. He again assured that it was safe to work in the kitchen area and that the VA was routinely monitoring to assure the safety of all who were working in or visiting the hospital. At that time, the parties were in agreement that FSS would perform the kitchen installation above the ceilings as it had designed in its shop drawings. (R4, tabs 136, 141; Tr. VIII/135)

In a previous letter to the CO dated January 4, 1995, M. Hayes had stated that FSS would only complete work in the kitchen area when "conclusive test[s] are made to prove the area free of ACM." The CO, in a letter dated January 12, 1995, responded by once more stressing that testing had shown the ACM to be within acceptable levels, as explained by the VA at their January 5 meeting. (R4, tabs 138, 141)

Again, in a letter dated February 15, 1995, FSS (Mr. Allen) notified the CO that it suspected the existence of asbestos in the kitchen area. After receiving input from the Safety Officer, the CO responded on February 21, 1995. She stated that:

> In Zone 3-East FP-5A, Kitchen, we have discussed the kitchen several times and we can find no reason that your employees are endangered by working in this area. Available air sampling data indicates that there [is] no airborne fiber exposure to ACM above the established [OSHA] Permissible Exposure Limit (PEL). Additionally pipe installation drawings do not indicate the need for ACM in the area to be disturbed or removed in order for the work to progress. As has been demonstrated to Mr. Knight and your crew, air sampling information conducted for them in similar situations does not indicate any threat to the health and safety of the employees of FSS, its subcontractors, or the employees, visitors and patients of our hospital.

(R4, tabs 150, 152)

The Contractor's Mr. John Thiels advised the COTR that FSS did not intend to work in any areas identified as containing possible ACM, including the dietetic kitchen. Upon learning of this, the CO sent a letter to FSS, once more reiterating that it was safe to work in these areas. She concluded by stating that if the Contractor did not intend to complete the work called for in the Contract, and that it had already been directed to complete, it was to advise her in writng by March 29, 1995 so that "appropriate action" could be initiated. (R4, tab 165)

On April 24, 1995, the CO issued a Cure Notice to the Contractor. She listed seven work items that FSS had failed to perform. The first item listed was "Install sprinklers in the hospital kitchen." As all seven of these items were considered to be endangering performance toward the Contract's completion, the CO demanded either completion of the items or an acceptable plan for completion within ten days. Otherwise, the Government would consider a termination for default. (R4, tab 178)

The Contractor responded to the Cure Notice in a letter dated May 11, 1995. With respect to the kitchen area, Mr. Hayes stated: "Install sprinklers in the hospital kitchen status: work not done. FSSI requires written notice from the VA stating that tests of the area show it to be "clean" of asbestos. Then work will be performed." (R4, tab 182)

In a memorandum to the CO dated June 2, 1995, Mr. Gary Langley, the Chief of the VAMC's Engineering Service, having reviewed the FSS response of May 11, observed that no matter how many times FSS was instructed to proceed with kitchen piping and sprinkler installation following established, approved procedures, it still adamantly refused to perform the work. Mr. Langley advised that he had asked the project A/E to design a sprinkler installation below the kitchen ceiling. Because the Contractor's own shop drawings showed the routing of piping in the areas above the kitchen ceiling, and because FSS could have designed to avoid close encounters with ACM, the engineer took the position that "any remedial action taken to correct the [Contractor's] error should be performed at no additional cost to the Government." (R4, tab 185)

Upon receiving Mr. Langley's memorandum, the CO wrote the following June 8, 1995 Report to the File: "We will direct [FSS] to redesign the area of the kitchen. It is more important at this time to complete the installation of the hospital so that other construction can proceed throughout the hospital." On

that same date, the CO sent a letter to FSS. She began by stating that the Contractor's failure to address the completion of the outstanding work rendered it in "technical default," as the completion date of May 12, 1995 had passed. She stated, *inter alia,* that:

> You have refused to install the sprinkler system design which you submitted and was subsequently approved by the VA in the Kitchen area. We have consulted with [the A/E] for an appropriate alternative method of sprinkler installation for the kitchen. Following an evaluation of the space, [the A/E] has proposed that a system be designed which incorporates the installation of wall-mounted piping around the perimeter of the kitchen. The system shall be installed below the existing ceiling. All piping must be concealed per contract requirements. The prefabricated soffits as outlined in Specification Section 15500.1.3.D would apply because you don't wish to go above the ceiling. We will allow you to install in this manner. All concerns should be addressed under the same provisions established for alternate concealment beneath plaster ceilings as previously stated in Specification Section 15500.1.3.D for this area.
>
> Contract Specification Section 01010.1.1A, General Intention, states, 'the contractor is to design and install sprinkler system, etc.' You have contended that the chosen routing of the sprinkler piping poses the risk of disturbance of existing asbestos. Because selection of the route and method of installation is the responsibility of the sprinkler contractor and your design team designed for that area without notifying the VA of any potential installation problems, you are expected to redesign and install. You are respectfully requested to provide a proposal to delete the work not performed and provide a proposal for the change in work in accordance with the Changes Clauses, FAR 52.243-4 and VAAR Clause 852.236-88.
>
> You are directed to submit revised shop drawings and hydraulic calculations for the entire sprinkler zone and any adjacent zone affected by this change. You are also directed to provide manufacturer's literature on any system component not previously approved.

> All submittals shall be provided in accordance with Section 15500.1.6, Submittals. Revised submittals shall include hydraulic calculations and shall be submitted to the COTR, Mike Atchley as well as [the project A/E] with a cover sheet being provided to the Contracting Officer.
>
> * * * * * *
>
> Delays by you in completion of the remaining contract items pose severe consequences to the Harry S. Truman Memorial Veterans Hospital. The original contract completion date provided for the project completion prior to the hospital's upcoming JCAHO survey. Contractor caused delays will jeopardize the facility's accreditation status under existing Environment of Care standards. Emediation [sic] of remaining contract issues must be accomplished immediately to minimize the negative impact to the facility.

The CO concluded by demanding a new schedule to complete the remainder of the work, including time lines for resumption of work. The Contractor was instructed to comply with the Contract's submittal requirements. In addition, the CO requested a clear, concise proposal in accordance with the Contract's Changes clauses [FAR and VAAR]. All of the requested information was to be submitted no later than June 23, 1995. Failure to comply would result in a termination for default. In her testimony, the CO reiterated that the impetus for her agreement to allow FSS to install below the ceiling was the danger of loss of accreditation by the hospital if sprinkler work was not completed before the upcoming inspection by JCAHO auditors. (R4, tabs 186, 186A; Tr. II/147)

On June 19-21, 1995, the Contractor surveyed and designed for work in Zone 3, the dietetic kitchen. In a letter dated June 23, 1995, the Contractor furnished the CO with its price proposal for redesigning and installing the sprinkler piping below the kitchen ceiling. Its direct costs (not including a daily overhead rate of $584.57) amounted to $62,432.00, with a credit for the prior

design of only $3,235.80. The estimated inside labor (pipefitters) was estimated at 853.64 hours. (R4, tabs 290, 191)

Also on June 23, 1995, Mr. Hayes furnished the CO his revised bar charts for completion of the several outstanding items of work to be completed. With respect to the kitchen sprinkler piping installation, surveying was shown to begin on June 19, 1995, with added time for the change order, design, submittal/approval, fabrication/delivery and finally, installation starting the week of October 15, 1995 and running to the week of November 19, 1995. (R4, tab 198)

The Contractor proposed to utilize the DecoShield plastic soffit material to cover the sprinkler piping to be attached to the kitchen walls. However, it then submitted specifications for a plastic pipe instead of the thin wall steel pipe that the parties had agreed to install in SA #3. The VA refused to further relax the pipe specifications, disapproving that portion of the submittal. A telephone conference call was held on August 21, 1995, with one of the agenda items being the Contractor's plastic sprinkler pipe submittal. Mr. Hayes discussed the matter with the CO and her COTR. Mr. Hayes asked that the VA reconsider its rejection of the plastic pipe, stating that DecoShield did not have a product that would support steel piping. The CO asked that Hayes put in writing why the steel piping would not work and to offer an alternative to DecoShield. Both the CO and the COTR stressed that the VA wanted no plastic pipe used in any part of the building's sprinkler system. The CO then explained that she would not issue the formal change order until the VA had an approved [soffit] product, since the particular product to be used could impact the cost. She did state that if the parties could agree on such a product, a change order could be issued as early as August 25, 1995. (R4, tabs 203-206)

In an August 23, 1995 letter, Mr. Hayes advised the CO that two-inch steel pipe could not be used with DecoShield because the physical dimensions of the pipe may require forcing and springing the plastic soffit material and result in a poor fit requiring continual maintenance. The other available soffit material was not, in the opinion of Mr. Hayes, aesthetically acceptable due to its increased size and finished appearance. He again requested the combination of plastic pipe and DecoShield. (R4, tab 208)

By telephone and letter dated August 31, 1995, the project A/E advised the CO that in response to her inquiry concerning the possibility of using two-inch steel pipe with DecoShield, he had personally contacted one of the firm's representatives. He was told that, "in a side wall application, the contractor would use the 250L Shield which would provide ample room for the steel pipe with any type of mechanical coupling." She cautioned, however, that while the 250L Shield will work with a two inch steel pipe and its fittings, "it takes careful installation." Included with his letter were data sheets for the DecoShield products. By letter dated September 5, 1995 the CO forwarded the DecoShield product literature to FSS. (R4, tabs 211, 213)

The VA issued Supplemental Agreement # 17 on September 27, 1995 in the net amount of $7,164.43, over and above the estimated cost of the Contractor's original installation design. Because of the disparity between the Contractor's price proposal and the amount allowed by the CO, the Agreement was never signed by FSS. The CO allowed no additional time, but did state that: "Any time deemed appropriate would be calculated at the end of the contract." When the Contract had been finally completed and accepted, the CO failed to add any additional time for SA #17. (R4, tab 288)

The Contractor submitted its design and hydraulic calculations for the combination of steel piping and DecoShield soffit on October 9-11, 1995. It began

kitchen installation on October 18, 1995 and completed the work on November 20, 1995. (R4, tabs 366, 290)

The Safety Officer was quite familiar with the space above the dietetic kitchen ceiling. With respect to the question of whether there was adequate room for maneuverability to install piping, he testified as follows:

> As it relates to other areas above the ceiling in the medical center? There is no comparison. There is a magnitude of more space above the ceiling in the kitchen than there was in possibly any other area in the medical center with the exception of the auditorium. I never really understood concerns about that area as I reviewed - - and I did ask for [shop] drawings showing where the piping was going to be and take those down and actually take out some ceiling tiles and look at where the duct with the Kalo block was at and where they were showing their sprinkler lines to be installed. They actually, based on those drawings that they provided to me, had enormous amounts of room to put in sprinkler piping, just absolutely enormous . . .and I've never really understood that – why that area was of more concern than other areas. We had environmental sampling for that space, air samples, that indicated, you know, no fibers in the air.

(Tr. VI/155-56)

The witness described the duct insulation (ACM) above the kitchen ceiling as in good condition; good being the best possible condition that it could be in, well-adhered, with no delamination and no evidence of any damage to the material. That insulation, called Kalo block, was composed of sheets of pre-shaped asbestos that had been fastened to the ductwork. This ductwork ran above the kitchen ceiling, picking up the exhaust from the cooking and other heat-generating equipment in that facility. (Tr. VI/157-58, VI/206)

VABCA-5583: DISCUSSION & DECISION

The Appellant's scheduling expert based his client's entitlement to delay damages entirely upon the sprinkler installation in the dietetic kitchen. He was

of the opinion that this work was the only critical path activity through November, 1995. Consistent with that position, the Board has examined all relevant facts of record concerning this work in the kitchen. For reasons to be discussed, we conclude that it was the Appellant, not the Government, who unreasonably delayed installation of sprinkler piping in the dietetic kitchen.

The Government witnesses, particularly Safety Officer Henrickson, credibly testified that the area above the kitchen was far more expansive than any other area of the hospital save for the auditorium. The Contractor had access to the Asbestos Assessment of every area of the hospital prior to designing the routing of its piping above the kitchen ceiling. It submitted its shop drawings showing the placement of the piping above the kitchen ceiling and they were approved. The constant ambient air sampling conducted by the Safety Office, the results of which were conveyed to the Contractor, showed that there was no airborne asbestos that exceeded the applicable OSHA standard. The condition of the ACM insulating the duct work was described by the Safety Officer as well-adhered with no evidence of any damage. There was no technical or contractual basis for the Contractor's adamant refusal to install the sprinkler piping exactly as it had designed in the approved shop drawings.

The conclusion by Appellant's scheduling expert that SA #17 was issued to correct the VA's "defective specification" is without factual basis. While it is true that the CO ultimately did agree not only to let FSS proceed with a an alternate installation below the ceiling and to actually pay for the "privilege," she could just as easily have followed through on her repeated threats to terminate the Contract for default. We have found, however, that the longer the problem remained unresolved, the more concerned the VA became over losing its accreditation if the sprinkler work was not completed prior to the next inspection by the JCAHO committee. In the CO's own words, this was the impetus for her

decision to issue SA #17. She was under pressure, much of it caused by the Contractor, who seems to have taken advantage of the situation. Under these circumstances, we do not consider that change order to operate as an irrebutable presumption of Government responsibility for the situation preceding its issuance.

Once the decision was made to change the design there is no evidence whatsoever that the Government caused the work to be delayed until October/November of 1995. As before, FSS submitted sprinkler pipe, this time plastic, that failed to comply with the prior sprinkler pipe deviation that the Contractor had itself precipitated (SA #3). This time, however, the VA refused to further relax the specifications. Insisting on steel pipe, the VA, through it's A/E, took the initiative and confirmed that the manufacturer of the desired plastic DecoShield soffit material, could provide the soffit in a size that would accommodate steel pipe, contrary to the position of FSS.

We also disagree with the Appellant's expert concerning Mr. Gymory's testimony concerning the concurrent delays to contract completion. While it is logical that during the original (or contractually extended) performance period, any work on parallel paths with significant amounts of float will not become critical so long as critical path work is delayed, these characterizations become meaningless once the Contract's completion date has been reached. Once past that point, common sense dictates that any substantive work remaining becomes critical to Contract completion. In other words, even had the delay in kitchen sprinkler installation never occurred, the Government's scheduling expert has graphically illustrated at least seven other substantive items that remained incomplete after the Contract's extended completion date. Of these items, three were base Contract work: fire alarm installation (electronic) – not completed until November 18, 1995; signage - not completed until the week of December 1,

1995, and; door and frame installation in rooms C05 and C05A – not completed until the week of January 10, 1996. There is no evidence whatsoever that the Government caused any delay in completion of these three basic elements of the Contract. While it is clear from Mr. Gymory's as-built progress chart that there were extremely long periods with no work shown on each of these activities' parallel paths, we will not presume that the Contractor could and would have performed these activities earlier had the kitchen sprinkler piping work not been delayed. Proof rather than presumption is a part of the Contractor's burden. The burden cannot be met by educated guesses or conclusions, no matter the qualifications of the expert offering them. Hard *verifiable* evidence of how and why these activities were not completed sooner must be presented. This was not done.

In order to prove its entitlement to an equitable adjustment, a contractor must establish three elements: liability, causation and resultant injury. ***Wunderlich Contracting Co. v. United States***, 351 F.2d 956, 968 (Ct. Cl. 1965); ***Servidone Construction Corp. v. United States***, 931 F. 2d 860 (Fed. Cir. 1991); ***Dawson Construction Company, Inc.***, VABCA-3306 *et al*., 93-3 BCA ¶ 26,177 at 130,321. With respect to its assertion of the 188 calendar days of Government-caused delay, Appellant has failed to establish that the Government is liable for the delay or that any Government action or omission caused this period of delay.

The period of time between May 2 and June 14, 1995, during which the Contractor's Logs recorded no work being done due to ACM, was concurrent with the ongoing delay to sprinkler pipe installation in the dietetic kitchen area of Zone 3. As we have already determined that FSS was responsible for that delay (not to mention other parallel activities), it is precluded from recovering delay damages for that period. ***Conner Brothers Construction Co.***, VABCA No.

2504 *et al.*, 95-2 BCA ¶ 27,910 at 139,270; ***C & D Lumber, Inc.***, VABCA Nos. 2877, 3204, 91-1 BCA ¶ 23,544.

The Government has, however, conceded sixteen calendar days of compensable delay for which it bears the responsibility. These one-day suspensions occurred sporadically during 1994 and 1995. Because piping installation during the period covered by these twelve Logs was on the project's critical path, we agree that they were unreasonable suspensions for which compensation is due the Appellant under the Suspension of Work clause of the Contract. ***P. J. Dick Incorporated***, VABCA No. 5579 *et al.*, 01-2 BCA ¶ 31,647.

Having examined the twelve Log entries, it is clear that on nine of the twelve dates when the suspected presence of ACM caused the pipe fitters to cease work, other substantive work continued. On the date that the COTR stopped work on the doors, the Log shows other piping work continuing. On the three dates when the only work being done was the piping that was stopped, the Appellant has failed to show why other substantive Contract work could not have been performed.

Quantum Calculations

1. Additional Labor Costs

The Appellant is entitled to recover its direct costs attributable to the Government-caused delay. These are the 258 labor hours lost on the twelve days recorded on the Daily Logs. We will utilize the same multipliers that we used to calculate the equitable adjustment for inefficiency caused by the suspected presence of asbestos. Because this remedy is pursuant to the Suspension of Work (SOW) clause of the Contract, no profit will be added.

Additional Labor Total: 258 hrs. @ $23.53		$6,071.00
Union Benefits	$6.16/hr.	1,589.00

Subsistence	13.67% of labor	830.00
Unemployment & Medicare	3.79% of labor	230.00
Subtotal		$8,720.00
Overhead @ 10%		827.00
Subtotal		$9,547.00
FICA, Workers Compensation		
	17.52% of Site labor	1,064.00
Subtotal		$10,611.00
Bond 0.93% of Subtotaled costs		99.00
Total Direct Costs		$10,710.00

2. Field Overhead Costs

While the Appellant was suspended for sporadic periods due to the suspected asbestos, the record does not indicate that it was on "standby" as defined by the controlling case law. As this Board stated in ***P. J. Dick***, at 156,347, discussing the Federal Circuit's decision in ***Melka Marine, Inc., v. United States***, 187 F.3d 1370 (Fed. Cir. 1999):

> The Court's holding that, in a period where other substantial work could be undertaken during a suspension, there is no entitlement to ***Eichleay*** damages makes it clear that proof of being on standby is a necessary prerequisite to recovering ***Eichleay*** damages. In ***Sauer Incorporated***, the Court reiterated that failure to prove it was on standby precluded a contractor from recovering ***Eichleay*** damages. ***Melka Marine, Inc.***, 187 F.3d 1370 at 1376; ***Sauer Incorporated v. Danzig***, 224 F.3d 1340 (Fed. Cir. 2000).

While Appellant is precluded from recovering ***Eichleay*** damages for unabsorbed home office overhead expenses, it is not precluded from recovering its provable daily field overhead costs during these sporadic periods of suspension to a critical path activity. In ***P. J. Dick***, having determined that the Contractor did not meet the standby test pronounced by the Federal Circuit in ***Melka Marine*** and ***All State Boiler, Inc. v. West***, 146 F.3d 1368, 1373, this Board stated:

> However, for any period for which we find PJD's Contract performance was suspended, PJD would be entitled to an equitable adjustment under the SOW clause for the direct costs attributable to the SOW. Since there is a direct 'day to dollar' correlation of field overhead costs, daily field overhead expenses are included in the direct costs recoverable as part of an SOW equitable adjustment.

P.J. Dick Incorporated, at 156,348.

The Appellant has calculated its total site overhead costs for the 300 day period from January 25, 1995 to November 28, 1995 at $38,011. This results in a daily rate of $126.70 ($38,011 ÷ 300) for that period. Even though there is no calculation for a 1994 daily rate, it is almost certain to equal or exceed that for 1995, since height of Contract activity (the top of the bell curve) would have occurred during the mid-to-late part of 1994. We will therefore apply that rate to the sixteen calendar days of suspension in both 1994 and 1995 ($126.70 X 16). The site overhead costs during the suspensions total $2,027.

In accordance with the prior discussion, this appeal is ***sustained*** in the total amount of $12,737.

VABCA-5581: FINDINGS OF FACT

Consultant Fees

In a letter dated December 18, 1997, FSS requested compensation by the VA on twenty-five individual claims. Claim No. 23 was titled "Consultant Fees." The Contractor stated its justification for this claim as follows:

> As part of Fire Security's administration of this contract, particularly the resolution of delay issues, it became necessary to engage the services of a consultant. A detailed description of the consultant's activities in furtherance of contract administration is in Attachment 22. As you know, the case law allows government payment of consultant's fees when incurred "to promote contract administration." ***Bill Strong Enterprises v. Shannon***, 49 F.3d 1541 (Fed. Cir. 1995). Accordingly, Fire Security hereby requests that the Government pay $203,810. (See Attachment 23)

(R4, tab 291)

Attachment 22 to this claim consists of the invoices submitted to FSS by Mr. Cassin's firm, SSPEC SO CAL, INC. (Exh. A-6)

The case law referenced in the December 18th FSS letter is based on a provision of the FAR relating to payment for **professional and consultant service costs**. FAR, Section 31.205-33 reads, *inter alia*, as follows:

> (a) Definition. Professional and consultant services, as used in this subpart, are those services rendered by members of a particular profession or who possess a special skill and who are not officers or employees of the contractor. Examples include those services acquired by contractors or subcontractors in order to enhance their legal, economic, financial, or technical positions. Professional and consultant services are generally acquired to obtain information, advice, opinions, alternatives, conclusions, recommendations, training, or direct assistance, such as studies, analyses, evaluations, liaison with Government officials, or other forms of representation.
>
> (b) Costs of professional and consultant services are allowable subject to this paragraph and paragraphs (c) through (f) of this subsection when reasonable in relation to the services rendered and not contingent upon recovery of the costs from the Government.
>
> (c) Costs of professional and consulting services performed under any of the following circumstances are unallowable: . . . . (3) Any other services obtained, performed, or otherwise resulting in violation of any statute or regulation prohibiting improper business practices or conflicts of interest. (4) Services performed which are not consistent with the purpose and scope of the services contracted for or otherwise agreed to.
>
> (d) In determining the allowability of costs (including retainer fees) in a particular case, no single factor or any special combination of factors is necessarily determinative. However, the contracting officer shall consider the following factors, among others:

(1) The nature and scope of the service rendered in relation to the service required. (2) The necessity of contracting for the service, considering the contractor's capability in the particular area. (3) The past pattern of acquiring such services and their costs, particularly in the years prior to the award of Government contracts. (4) The impact of Government contracts on the contractor's business. (5) Whether the proportion of Government work to the contractor's total business is such as to influence the contractor in favor of incurring the cost, particularly when the services rendered are not of a continuing nature and have little relationship to work under Government contracts. (6) Whether the service can be performed more economically by employment rather than by contracting. (7) The qualifications of the individual or concern rendering the service and the customary fee charged, especially on non-Government contracts. (8) Adequacy of the contractual agreement for the service (e.g., description of the service, estimate of the time required, rate of compensation, termination provisions).

(e) Retainer fees, to be allowable, must be supported by evidence that – (1) The services covered by the agreement are necessary and customary; (2) The level of past services justifies the amount of the retainer fees (if no services were rendered, fees are not automatically unallowable); (3) The retainer fee is reasonable in comparison with maintaining an in-house capability to perform the covered services, when factors such as cost and level of expertise are considered; and (4) The actual services performed are documented in accordance with paragraph (f) of this subsection.

(f) Fees for services rendered shall be allowable only when supported by evidence of the nature and scope of the service furnished. However, retainer agreements generally are not based on specific statements of work. Evidence necessary to determine that work performed is proper and does not violate law or regulation shall include – (1) Details of all agreements (e.g., work requirements, rate of compensation, and nature and amount of other expenses, if any) with the individuals or organizations providing the services and details of actual services performed; (2) Invoices or billings submitted by consultants, including sufficient detail as to time expended and nature of the actual services provided; and (3) Consultants' work products and related documents, such as trip

reports indicating persons visited and subjects discussed, minutes of meetings, and collateral memoranda and reports.

After the CO requested additional information and support for the claim for consultant fees, FSS responded in a letter dated March 12, 1998. Mr. Hayes stated that there was no written contract between Mr. Cassin and FSS and that all of Cassin's paid invoices had been furnished to the DCAA. He further stated: "It is fair to say that 99% of the paperwork the VA received from Fire Security on this project was drafted by the consultant. Accordingly, almost all the correspondence in the VA file on this project was prepared by the consultant." (R4, tab 294)

The twenty-five separate invoices from Mr. Cassin covered the period from February 1, 1994 through February 14, 1996. (Exh. A-6) The first invoice, dated March 1, 1994 is fairly typical of the range of issues and level of detail:

2/01/94	1hour	ROD/Phonecons HST/Marion
2/16/94	3 hours	ROD/Phonecons
2/18/94	2 hours	ROD
2/20/94	8 hours	Progress/Submittals/Autocad/ Payments
2/21/94	8 hours	Letters on Payments, Submittals, Pricing, Incomplete Incorrect Autocad, Response to CO Letter
2/22/94	3 hours	Various Letters
2/25/94	2 hours	Letters
2/27/94	4 hours	Letters to & from VA

Principal @ $150 $4650.00

Another typical invoice, dated March 30, 1995, reads:

3/21/95	1hour	ROD
3/22/95	4 hours	Phonecon with Ray Hayes Composite Price Proposal
3/23/95	7 hours	Composite Price Proposal/FPS Autocad/FAS Design
3/24/95	6 hours	Several No Work Letters
3/25/95	4 hours	Several No Work Letters i.e.

		Catwalk obstruction/Valve
3/27/95	3.5 hours	Answers to HST CO Ltrs/HST Ltrs
3/29/94	4.5 hours	Cases & Cites/HST Ltrs
		Consultant Fee Pkg
Principal @ $150		$4500.00

Mr. Hayes testified regarding the substance of some of the billing items, even identifying particular letters that could be seen in the Rule 4 file. He was not always able, however to explain particular line items contained on the invoices. (Tr. XII/179-92)

In many of the letters to the VA, Mr. Cassin had referred to COTR Atchley as a "human DDT" (with DDT as an acronym for Delays, Disruption & Trauma). On several occasions, he also applied the term to Mr. Donald Birchler, one of the members of the VA's A/E design team. Often the letters were tinged with sarcasm, once referring to statements by the CO as "more likely to be the product of prozac than prose." In another letter, the CO was likened to "the Empress of India, Queen Victoria, Ruler of the Raj, talking to a delegation of Hindu untouchables in India, circa 1876." The preceding was intended to describe the CO's attitude toward FSS during a substantive meeting concerning several issues impacting progress toward completion that was held between representatives of the VA and the Contractor on January 5, 1995. The confrontational tone of these letters and others was consistent throughout Contract performance. (R4, tabs 41, 42, 60, 61, 137, 144, 168)

The CO denied the claim because she considered the services performed by the consultant to be part of the Contractor's overhead. When asked how the consultant's purported expertise in Government contracting was reflected in the letters ghost written for signature by Mr. Hayes and Mr. Allen, she responded that:

> His letters did nothing to help me and I found nothing in there that he knew Government contracting. He disregarded [the] changes

> clause with his own assumptions of how the contract should be run. I'm not sure he ever read the contract. I have no other thing to think of this other than that he was doing paperwork to set us up for claims.

(Tr. XII/244; X/241)

The CO testified that in twenty-five years of working with contractors, these were possibly the "most derogatory" letters that she had ever received. In her opinion, the letters were wholly unprofessional and not to be expected from someone who is in any kind of business. With respect to the impact that these letters had on the relationship between FSS and the VA, she stated:

> [T]hey were not beneficial in trying to resolve problems. I would write back and ask: Is this the question you have? Because they would ramble on and on about certain things that I had no idea what the question was. So I actually wrote back and asked them, please identify to me what the question is or what the issue is, and I would receive letters on the same vein maybe two or three days in a row and I wouldn't know what the question was or what they wanted from me.

(Tr. XII/239)

The CO first learned of the relationship between FSS and this consultant in a letter addressed to her attention, dated January 2, 1996. FSS stated that it "has hired a consultant to help prepare a request for equitable adjustment (REA) on [this Contract]." After requesting that the VA provide the consultant with any information or data that they request, FSS gave the address and phone numbers for SSPEC, INC, Attn: Mike Cassin. (R4, tab 223)

Mr. Hayes has worked in the field of fire protection for almost thirty years. He is a member of several professional fire protection organizations and holds general construction and sprinkler licenses in numerous states. At the time his firm was awarded this Contract, FSS had experience in fire protection work both as a prime and a subcontractor. That experience included shopping centers,

industrial plants, chemical plants, and hospitals - both government and private. Prior to this Contract, FSS had completed several VA hospital projects "all across the country." These included larger contracts ($1.5 million to $7 million) at VA facilities in Shreveport [Louisiana], Indianapolis [Indiana], Murfeesboro [Tennessee] and Milwaukee [Wisconsin], as well as smaller projects ($100,000 to $500,000) throughout Texas, Louisiana and Mississippi. At about the time this Contract was bid, government work constituted the majority of this Contractor's business, in terms of dollar volume. (Tr. I/22-27, XI/172)

When this project began, FSS had a six-person administrative staff in its home office, consisting of: Mr. Hayes, his partner, two salesmen, and two draftsmen. In addition, there were two accounting personnel and their supervisor, Mr. Bratlie. Normally, the salesman for a particular project was responsible for administration of that contract, sometimes with the assistance of Mr. Hayes. (Tr. XII/167)

Mr. Michael Cassin had been a general contractor in government contracts. When he retired, he became a consultant, operating under the firm name SSPEC SO CAL, INC. He had been used by FSS on contracts of $1 million or more and on contracts of lengthy duration. On the instant Contract, as before, Mr. Cassin had no contract with FSS. Mr. Hayes testified that it was cheaper to use a consultant such as Mr. Cassin who billed on an hourly basis to do this work than to hire a full-time employee. Mr. Cassin was not called to testify and so was not subject to *voir dire* with respect to his qualifications as a consultant. The only evidence of the consultant's qualifications is Mr. Hayes' testimony that he relied on Mr. Cassin's prior experiences in dealing with the Government and the content of the letters that he ghost-wrote for FSS. (Tr. XII/168-178, 232)

Mr. Hayes testified that normally, he or Mr. Allen, the Project Manager would have drafted routine letters. However, he stated that, because of the

number of problems and change orders that occurred on this project, it was necessary that Mr. Cassin author most of the letters. Over the course of the Contract, Mr. Hayes stated that the consultant drafted 99% of the correspondence that went out under the FSS letterhead, regardless of the individuals actually signing the letters, whether Mr. Hayes or Mr. Allen. (Tr. XII/170-71, 232)

It had been the practice of FSS to have Mr. Cassin look at a project's plans and specifications either during bidding or thereafter, and review them with the Contractor. Sometimes, FSS personnel would rely on Cassin's experience with "respect to how particular [specifications] might apply to a project." (Tr. XII/169)

FSS furnished Mr. Cassin a set of plans and specifications for the VA's Columbia, Missouri hospital project and requested that he assist the Contractor in preparing a particular book to be submitted to the VA. In Mr. Hayes words: "[I]f we were able to show the Government how we interpreted the job, . . it might make the job work easier for both of us." (Tr. XII/170)

After the appeal was docketed, the Appellant revised its claim to only seek reimbursement for selected items listed on the Cassin invoices. The claim is now stated as $52,500 for direct payments to the consultant, plus overhead and profit. The full amount of the revised claim is $61,625. (Exh. A-7)

VABCA-5581: DISCUSSION & DECISION

If we apply the factors cited in FAR, Section 31.205-33, the recovery of these costs by Appellant would be problematical, at best. Under (a), we are not convinced that Mr. Cassin is an individual "who possesses a special skill" not otherwise available within the FSS organization. Without his presence at the hearing, it is difficult to assess his qualifications. The other part of the quoted phrase: "and who are not officers or employees of the contractor" raises the pertinent issue as to whether someone who authors 99% of a contractor's

correspondence on a great variety of issues arising during performance is *equivalent* to an "employee of the contractor."

Under (b) of the FAR clause, such costs "are allowable . . . when reasonable in relation to the services rendered." Again, based only on the invoices and without Cassin's testimony, it is difficult to justify $150 per hour to ghost write nearly all correspondence on behalf of the Contractor.

Under (d) of the clause, we seriously doubt that these services meet the criteria in the following sub-paragraphs: (2) The necessity of contracting for the service, considering the contractor's capability in the particular area; (6) Whether the service can be performed more economically by employment rather than by contracting. (In the 1994-95 period, one would expect to be able to employ a top-notch office manager, experienced in Government contracting for far less than $150 per hour). Lastly, we are not satisfied that Cassin's qualifications warrant the size of his fee. Consequently, the record in this appeal does not satisfy subparagraph (7), "The qualifications of the individual or concern rendering the service and the customary fee charged, especially on non-Government contracts." Despite his attempts, Mr. Hayes was not the appropriate individual to explain how Mr. Cassin's services meet the above-stated criteria. That individual was Mr. Cassin himself.

Under (e) of the FAR clause, subparagraph (3) requires a determination that "[t]he retainer fee is reasonable in comparison with maintaining an in-house capability to perform the covered services, when factors such as cost and level of expertise are considered." As previously stated, based on the record and without the testimony of Mr. Cassin, we cannot conclude that the retainer fee arrangement was reasonable.

Finally, under (f) of the clause, subparagraph (1) requires evidence of the details of all such agreements, such as "work requirements, rate of compensation

and nature and amount of other expenses, if any." Because there was no written agreement, there is no written scope of work for the Board to examine in order to assess the reasonableness of the hourly fee and the necessity for the services themselves. Subparagraph (2) requires "[i]nvoices or billings submitted by consultants, including sufficient detail as to time expended and nature of the actual services provided." Although Mr. Hayes was able to tie some of the services to preparation of identifiable pieces of correspondence, he could only conjecture at the reasonableness of the number of hours assigned to a "meeting," a "review of documents," etc. Again, without more detail on the invoices and/or testimony by the consultant, most of Mr. Hayes' attempts to explain and justify the amounts on the invoices were often mere conjecture.

This dispute presents the Board with a case of first impression with respect to the recoverability of fees paid to a consultant for providing what amounts to contract administration tasks in the performance of a fixed-price contract. Mr. Hayes has testified that Mr. Cassin authored virtually all of the FSS correspondence with the VA, whether for Hayes' signature or that of the project manager, Mr. Allen. We have examined the case law, both in the courts and other boards of contract appeals. In those situations, recovery was generally granted for consultant services that were specifically tied to a particular request for equitable adjustment and/or negotiations, and which efforts were seen as a benefit to the contract purpose. ***Bill Strong Enterprises v. Shannon***, 49 F.3d 1541 (Fed.Cir. 1995); ***Allied Materials and Erquipment Co***., ASBCA No. 17318, 75-1 BCA ¶ 11,150; ***Herman B. Taylor Construction Co. v. General Services Administration***, GSBCA No. 12,915, 96-2 BCA ¶ 28,547; ***Federal Insurance Co.***, IBCA No. 3236, 96-2 BCA ¶ 28,415.

While it is true that Mr. Cassin did author several letters related to change orders, it is also true that his duties were far broader than that. He was

"retained" by Mr. Hayes prior to the pre-construction meeting, ostensibly to assist the Contractor in what was apparently going to be a difficult performance due to problems uncovered between the bid opening date of September 13, 1993 and December 27, 1993, when Notice to Proceed was issued.

Mr. Hayes testified that the consultant was brought in at the earliest stage of the Contract to review the specifications and drawings, and that this was done because of Cassin's prior expertise in dealing with Government agencies. What is particularly puzzling to us is why an individual such as Mr. Hayes, with over 30 years of experience in a relatively specialized field and whose firm was principally involved in construction work for Government agencies, would need the services of Mr. Cassin at all. Certainly, FSS and Mr. Hayes had run into a variety of performance problems over the course of that much experience in Government contract work. It does not help that Mr. Cassin was not called by the Appellant to testify. The Government and the Board might have further explored his qualifications to determine whether in fact he does possess any unique insights not already present within the FSS organization – not to mention the justification for payment at the rate of $150 per hour. As the record stands, we conclude that Mr. Cassin was hired as a contract administrator – nothing more. The fact that he was able to sometimes offer helpful suggestions and transmit information to the VA on a variety of technical and interpretive issues was, in our view, incidental to his role as an all-around "trouble shooter" for the duration of this contract. Again, we stress that such a position, when envisioned from the start of a project through its completion, is more properly classified as a part of the overhead costs of contract administration, however much the Contractor may have been willing to pay for such services.

The Appellant's initial claim for fees paid to Mr. Cassin was in the amount of $203,810. This was later reduced to the $61,625 currently sought in connection

with several discrete documents authored by the consultant. The Appellant's attempt to restrict the issue before the Board to fees solely associated with the change orders and several defined problems such as asbestos does not change the essential nature of the consultant's services. The large sum initially sought in connection with the overwhelming majority of Contractor correspondence is consistent with our view that Mr. Cassin was primarily performing a variety of contract administration services rather than any focused consultation on specific matters requiring some expertise in negotiating with the Government. If in fact Mr. Cassin was retained to assist in negotiating with the Government, it is extraordinary that the Contracting Officer was not even aware of his role in the "correspondence war" that accompanied practically every issue that arose during the course of Contract performance. Instead of representing FSS directly, Cassin "ghosted" the letters from Mr. Hayes and Mr. Allen, letters so inflammatory as to sour the relationship between FSS and the VA. In order to qualify as an allowable expense under the FAR clause, consultant costs should "promote contract administration" in such a way that both the contractor and Government benefit from the process. ***Bill Strong Enterprises, Inc. v. Shannon***, 49 F.3d 1541 (Fed. Cir. 1995). This consultant promoted nothing but hostility – hardly meeting the criteria of the FAR as interpreted by the Court in ***Bill Strong***.

While Mr. Cassin did author correspondence in connection with several REAs, in many instances his derogatory comments to the VA and his refusal to provide price proposals (usually forcing the CO to issue unilateral change orders) were counterproductive, to say the least. The Contract's Supplemental Changes clause (VAAR 852.236-88(b)) at subparagraph (a) states that "[w]hen requested by the Contracting Officer, the Contractor *shall submit* proposals for changes in work to the Resident Engineer." (Emphasis added) It goes on to require that such proposals be submitted within thirty days, with itemized

breakdowns of the associated costs. As the General Services Board of Contract Appeals stated in denying a similar claim for consultant services:

> In the instant case, appellant's consultant played a role quite different from that normally expected of consultants during the negotiation process. Rather than assist in the exchange of information, he appears to have aided and abetted appellant in refusing to provide any cost or pricing data which might have assisted the Government in determining that the rate of $107 per square foot, which appellant persisted in demanding, was a reasonable one. As we have already pointed out, this was in violation of statutory and regulatory requirements as well as provisions of the contract itself. *Benefit to the contract purpose, whether in its work performance or administration, is a basic prerequisite for allowability*. ***Bill Strong [Enterprises, Inc. v. Shannon]***, 49 F.3d 1541, 1549 (Fed. Cir. 1995); ***Singer Co. v. United States***, 568 F.2d 695, 721 (Ct. Cl. 1977). (Emphasis added)

Fire Security Systems, Inc. v. General Services Administration, GSBCA No. 12267 et al., 97-2 BCA ¶ 28,992 at 144,380.

The CO's response, after receiving the claim and invoices for over $200,000 and Mr. Hayes' explanation that Mr. Cassin authored 99% of the FSS correspondence, was that these costs were properly a part of the Contractor's overhead. The CO was correct in this assessment. The consultant was "on board" even before the pre-construction conference, remaining through at least February 14, 1996, the date of the services covered on Cassin's last invoice. The subject matter of the letters covered all aspects of contract administration, whether relating to problems on the job, payment requests, scheduling, submittal problems, problems involving the AutoCad drawings and other interpretive issues, asbestos, claims, or information relating to change orders. This was nothing more than general contract administration. While some of the matters related to unique aspects of Government construction contracting, we see nothing that would have precluded either Mr. Hayes or Mr. Allen from drafting

these letters themselves. They both had many years of experience in fire safety construction and had been dealing with the federal government, including the VA on many past projects. If FSS was willing to pay for the services of someone who essentially was a contract administrator, at the rate of $150 an hour, that was a business decision unrelated to any particular problems or change orders expected to be confronted over the duration of this Contract. Whether or not Mr. Cassin was called a "consultant" and whether paid as an employee or an independent contractor, the fact remains that he was utilized as just another of the Appellant's employees for the duration of this Contract. We do not believe that such a situation was contemplated by the drafter(s) of the FAR clause. The appeal is **denied.**

SUMMARY OF DECISIONS

VABCA-5559, ***denied***; VABCA-5560, ***denied***; VABCA-5561, ***denied***; VABCA-5562, ***denied***; VABCA-5567, ***sustained***, **$ 6,534**; VABCA-5568, ***denied***; VABCA-5569, ***sustained***, **$ 714**; VABCA-5570, ***denied***; VABCA-5575, ***denied***; VABCA-5576, ***denied***; VABCA-5579, ***denied***; VABCA-5577, ***denied***; VABCA-5566, ***sustained***, **$ 5,740;** VABCA-5574, ***sustained***, **$ 6,409**; VABCA-5563, ***sustained***, **$ 17,584**; VABCA-5583, ***sustained***, **$12,737**; and, VABCA-5581, ***denied***. Interest on these amounts shall be paid from December 24, 1997, the date of the CO's receipt of Appellant's certified claim, in accordance with the *Contract Disputes Act.*

DATE: **August 16, 2002**

JAMES K. ROBINSON
Administrative Judge
Panel Chairman

We Concur:

MORRIS PULLARA, JR.
Administrative Judge

RICHARD W. KREMPASKY
Administrative Judge